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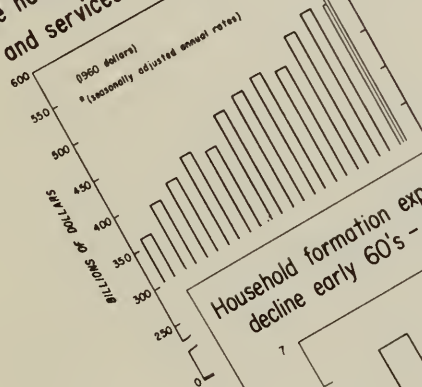
The Demand and Price Situation for Forest Products

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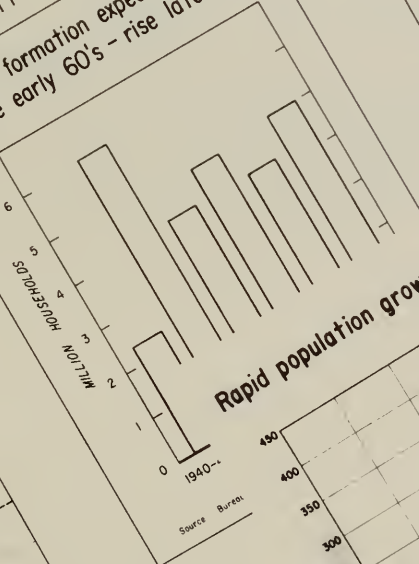
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CURRENT SERIAL RECORDS

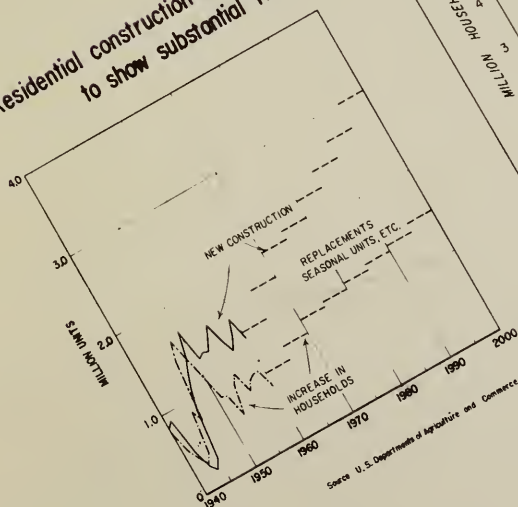
The nation's output of goods and services at a record level



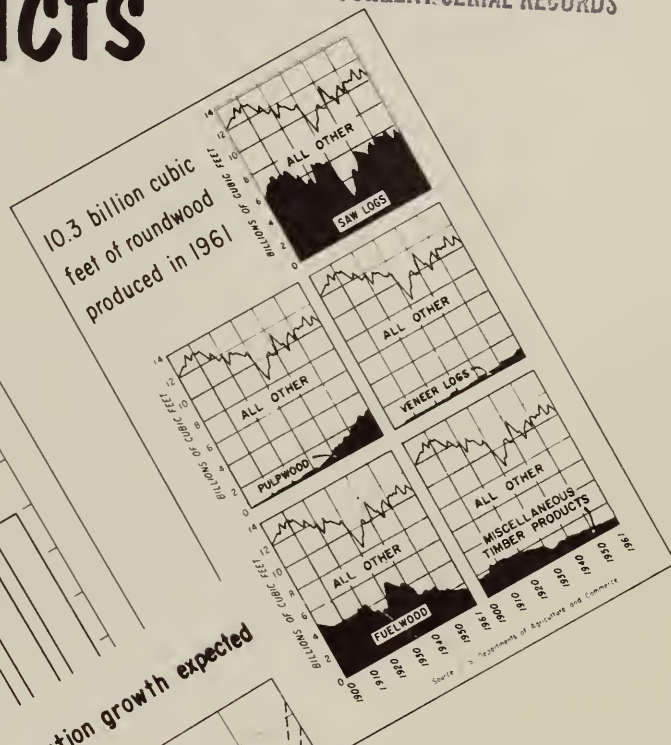
Household formation expected to show decline early 60's - rise late 60's



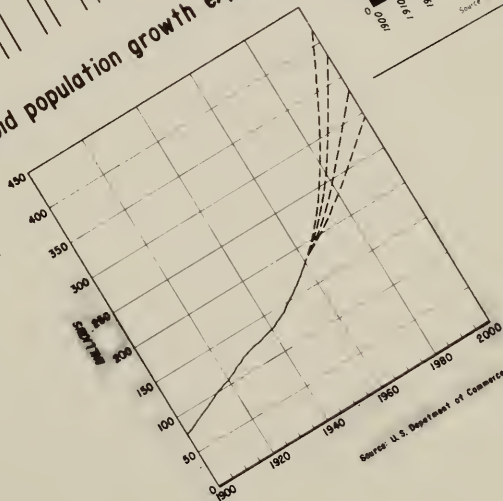
Residential construction expected to show substantial rise



10.3 billion cubic feet of roundwood produced in 1961



Rapid population growth expected



FOREST SERVICE AND AGRICULTURAL STABILIZATION
AND CONSERVATION SERVICE
U. S. DEPARTMENT OF AGRICULTURE NOVEMBER 1961

PREFACE

This report presents information on current trends in the demand for and prices of forest products for use in the 1961 Outlook Conference of the U. S. Department of Agriculture. Although national trends are dealt with for the most part, some information is also given for regions and States. A special effort has been made to record the data that will be most useful in interpreting the probable effects of future changes in the general economic situation on demand and price.

Much of the price information was taken from forest product price reports published by individual States. These reports, along with other reports containing information on prices and production of forest products and related economic data, are listed under Literature Cited.

The analysis of timber products was prepared by Dwight Hair in the Division of Forest Economics Research, Forest Service, and the analysis of naval stores by Herbert B. Wagner in the Tobacco Division, Agricultural Stabilization and Conservation Service.

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OUTLOOK SUMMARY

Timber Products

Upward trends in industrial production, construction and employment have pushed economic activity to a new high in 1961. The gross national product reached an annual rate of 516 billion dollars during the second quarter--about 12 billion dollars above 1960. In July the Federal Reserve Board index of industrial production was at 171, or 10 percent above the low of 155 at the start of the year. Construction expenditures in the same month were at a seasonally adjusted annual rate of 40.6 billion dollars (1947-49 prices)--6 percent above the 38.4 billion dollars spent in 1960 and 2 percent above the 1959 high of 39.9 billion dollars. Planned step-ups in government and business spending indicate a further expansion of economic activity in the months ahead.

Total production of round timber products in 1961 is estimated at 10.3 billion cubic feet--5 percent below 1960 and 11 percent under the postwar peak of 11.5 billion cubic feet reached in 1956. Stumpage prices also show a downward trend. During the second quarter Douglas-fir stumpage sold from the national forests averaged \$28.60 compared with \$32.00 during 1960.

Lumber production in 1961 is expected to amount to approximately 32 billion board feet, about 9 percent below production in 1960 and the lowest level of production since 1945. It is anticipated that the forests of the West will supply 60 percent of the lumber produced, the South 30 percent, and the North the remaining 10 percent. Softwoods, chiefly Douglas-fir, southern pine, ponderosa pine, western true firs, and hemlock, are expected to account for 85 percent of total output.

Lumber imports in 1961 are estimated at 4 billion board feet, exports 0.7 billion board feet, and decreases in stocks 0.2 billion board feet. Total lumber consumption, i.e., domestic production plus imports and removals from stocks minus exports, is thus expected to total 35.5 billion board feet, 5 percent below consumption in 1960.

Part of the drop in lumber consumption can be traced to changes in residential construction, such as an increase in the construction of multi-family units and single-family units on slab foundations, and the continued substitution of plywood and other panel products for lumber.

Recent declines in lumber consumption have been accompanied by some drop in wholesale lumber prices and in prices of saw logs. Since 1959 the wholesale price index of lumber (1947-49=100) has dropped from 127.1 to 116.8, a decrease of 8 percent. In contrast there was little or no change in the wholesale price index of structural steel, structural clay products, and plywood. Although wholesale lumber prices fell in relation to prices for most

competing materials, there was no evidence that the installed cost of lumber showed a similar decline. Rising wage rates in recent years have favored the use of panel products instead of lumber because they can be installed with much less labor.

Pulpwood production in 1961 is estimated at 40.5 million cords, 1 percent above 1960 and a new record. Imports of pulpwood are expected to total 1.3 million cords, decreases in stocks 0.5 million cords and exports 0.2 million cords. When the anticipated imports and removals from stocks are added to domestic production and exports subtracted, it appears that pulpwood consumption will amount to about 42 million cords. It is also expected that the equivalent of 8 million cords will be imported (net imports) in the form of woodpulp and other grades of paper and paperboard. Total consumption in 1961 will thus amount to 50 million cords--3 percent above 1960 and about double consumption 15 years ago.

Softwoods such as southern pine, hemlock, Douglas-fir, spruce, and the western true firs are expected to account for about 79 percent of the pulpwood produced, and hardwoods 21 percent. It is anticipated that the forests in the South will supply 59 percent of the pulpwood cut, those in the West 21 percent, and those in the North the remaining 20 percent.

Production of chipped residues by sawmills and other wood-using plants for use as pulpwood is expected to be 8.1 million cords in 1961, a new high in a trend that has been sharply upward since 1944. The rise in output of chipped residues has been particularly rapid in the South where production since 1953 has climbed from 76 thousand cords to the present level of about 3 million cords.

Round pulpwood prices at local delivery points showed little change in 1961 from the record levels attained in 1960. In the Southeast, for example, the price of rough pine pulpwood in 1961 is expected to average about \$16.50 per cord--about the same as in 1960 and 50 cents above the average in 1959.

The production of softwood veneer logs in 1961 is estimated at 3.7 billion board feet, 5 percent more than the 3.5 billion board feet produced in 1960. Production of hardwood veneer logs is expected to amount to 900 million board feet--about the same as the annual average since 1950.

Production of other industrial roundwood products such as cooperage logs, poles and piling, fence posts, hewn ties, and other miscellaneous products is estimated at 620 million cubic feet--9 percent below 1960. Consumption of Christmas trees in 1961 is expected to be about 45 million trees.

Naval stores

Four factors stand out in the naval stores situation during the 1961 crop year. First, although total naval stores production is expected to change little, steam-distilled naval stores output is resuming its downward trend, while naval stores from gum and sulfate sources expand. Second, the rosin market reacted to panic buying and spiraling prices during 1959

and 1960. As a result, current rosin disappearance is temporarily depressed, while consumers, both here and abroad, absorb stocks accumulated during 1959 and 1960. Therefore, stocks at production and concentration points are likely to be higher next March 31. Third, gum rosin prices have been stabilized nearly 25 percent above loan value through cooperative action of gum farmers in pledging part of their output to the 1961 CCC price support loan program.

Finally, prices of processed turpentine declined about 50 percent to the lowest level in 21 years. Although these lower prices are expected to increase domestic consumption, especially in industrial uses, exports are likely to be down from the 1960 level.

ECONOMIC SITUATION

Business activity continues to expand

Upward trends in industrial production, construction and employment have pushed economic activity to a new high in 1961. As illustrated in figure 1, the gross national product reached 516 billion dollars in the second quarter of the year (seasonally adjusted annual rate in 1960 prices)--about 15 billion dollars above the first quarter and 12 billion dollars above the previous high set in 1960 (41)¹ (table 1).

Part of the expansion that has occurred in 1961 has been caused by changes in inventory position. Businessmen liquidated stocks at an annual rate of 4 billion dollars in the first

The nation's output of goods and services at a record level

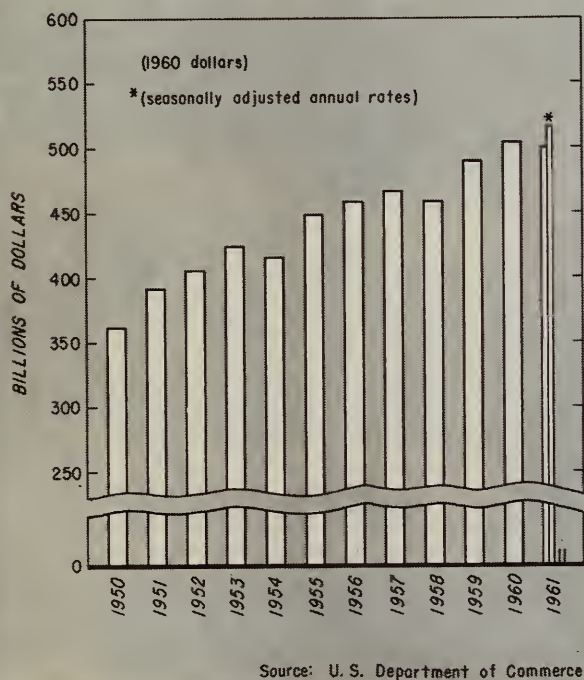


Figure 1

¹Underscored numbers in parentheses refer to Literature cited, p. 28.

Industrial production

rising in second quarter '61

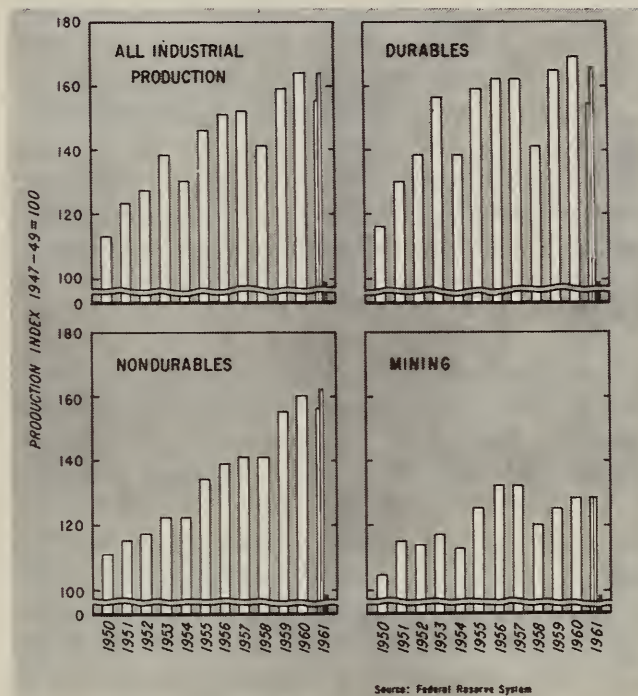


Figure 2

quarter but were building stocks at an annual rate of nearly 3 billion dollars during the second quarter. This was accompanied by a rise in industrial production. In July, the Federal Reserve Board index of industrial production was 171 (seasonally adjusted 1947-49=100)--10 percent above the low of 155 reached in January and February of 1961 and 3 percent above July 1960 (fig. 2). Manufacturing and utilities followed similar upward trends but mining showed no significant change.

Construction expenditures also showed an upward trend during the first half of 1961 and by July reached a seasonally adjusted annual rate of 40.6 billion dollars (1947-49 prices)--2 percent above the previous peak of 39.9 billion dollars set in 1959 and 6 percent above the level attained in 1960 (fig. 3). The seasonally adjusted

annual rate of public construction was 12.6 billion dollars (1947-49 prices)-- 9 percent above that in 1960 and 5 percent above the 1959 peak. Spending for highways, the largest single item of public works, amounted to 5.3 billion dollars and promises to increase further as the Federal highway program accelerates. New appropriations for defense and public welfare also seem likely to result in higher expenditures for military structures and for such nonresidential building as industrial plants, schools, and administrative and service facilities.

In contrast to public construction expenditures the seasonally adjusted annual rate for private construction (1947-49 dollars) was down by about 1 percent from the 26.7 billion dollars spent in 1960. This was caused by a decline in expenditures for residential construction. Expenditures for nonresidential building such

as offices and warehouses, public utilities, and farm structures were above that in 1960. Current capital expenditure plans of businessmen indicate that nonresidential construction is likely to continue its upward trend in the months ahead.

The rising trend in industrial production and construction has brought a marked gain in employment and personal income, although unemployment remained at about 7 percent of the labor force (42). The indexes of consumer and wholesale prices have been relatively stable in 1961.

Population growth since 1956 has averaged about 3 million people a year (fig. 4). In view of the continuing growth in population that is projected by the Bureau of the Census, continued increases in gross national product and such components as construction and industrial production are to be expected (35, 45).

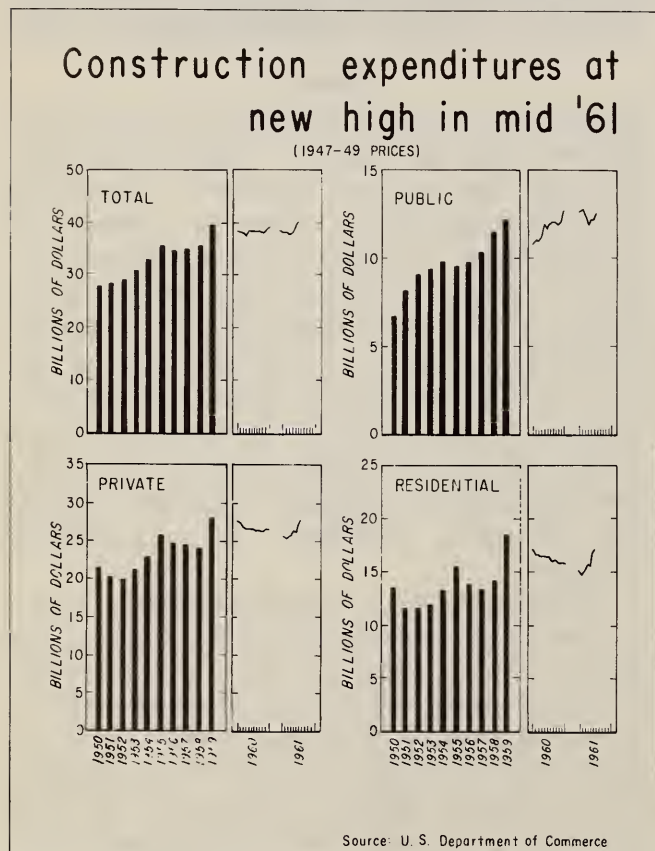


Figure 3

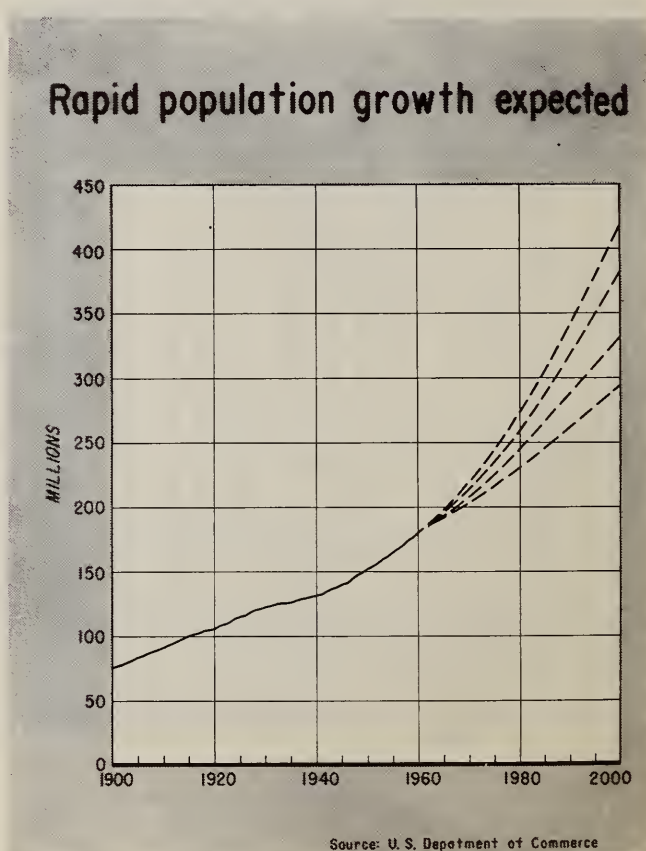


Figure 4

THE DEMAND AND PRICE OUTLOOK FOR STUMPAGE

Roundwood production declines in 1961

Production of all round-timber products combined in 1961 is estimated at 10.3 billion cubic feet, some 5 percent below output in 1960 and 11 percent under the postwar peak of 11.5 billion cubic feet reached in 1956 (table 2). The 1961 decline was caused by a drop in the output of saw logs and fuelwood and a small decline in the aggregate production of miscellaneous products such as poles, piling, and cooperage logs, etc. Production of pulpwood and veneer logs is expected to be somewhat above 1960 levels. Total industrial wood production in 1961 is estimated at 8.9 billion cubic feet--5 percent under 1960.

In the long run, as figure 5 shows, production of fuelwood and miscel-

laneous products has been declining, whereas output of pulpwood and veneer logs has been increasing. Saw logs have accounted for about half of total output in most years since 1900.

Consumption also down

Consumption of round-timber products in 1961 is estimated at 11.7 billion cubic feet--2 percent below the 11.9 billion cubic feet consumed in 1960 (table 2). In the months ahead upward trends in construction, industrial production, expenditures for new plant and equipment mentioned earlier seem likely to strengthen demands for timber products.

Because of the increase in population and the decline in use, per capita consumption dropped from 65.9 cubic feet in 1960 to 63.4 cubic feet in 1961. Trends in the per capita consumption of saw logs, pulpwood, fuelwood, and veneer logs and bolts are shown in table 3. Consumption of saw logs has gradually declined from 41.7 cubic feet per capita in 1950 to about 30.0 cubic feet in 1961. In this same period fuelwood is estimated to have fallen from 15.0 cubic feet to 7.8 cubic feet. Per capita use of pulpwood, however, has increased from 16.5 cubic feet to 17.7 cubic feet, and veneer logs from 2.3 cubic feet to 4.6 cubic feet.

Imports make up 11 percent of timber products consumed

In recent years imports have been supplying an increasing share of U. S. timber needs (36, 37). In 1961, net imports of wood, including the roundwood equivalent of lumber, veneer, plywood, woodpulp, and paper and board, are expected to amount to 1.3

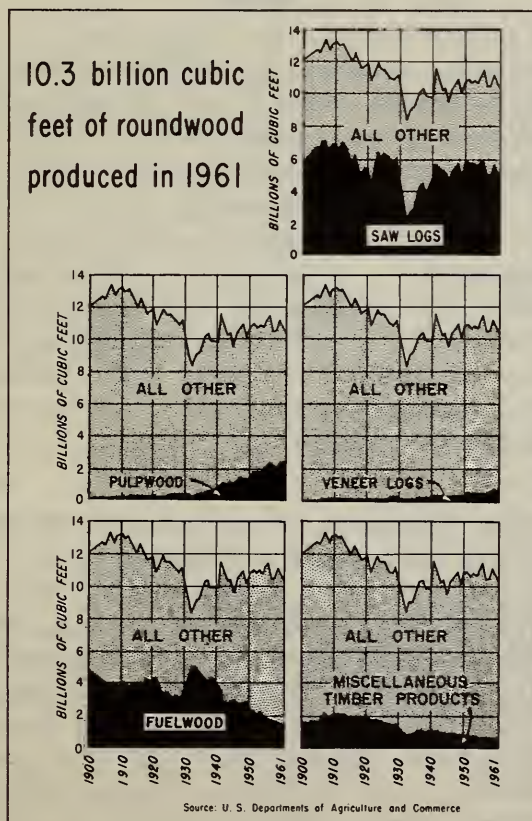


Figure 5

billion cubic feet and account for 11 percent of all timber consumed (table 2, fig. 6). This is about the same as in 1960 and represents the highest level of imports ever attained. Lumber is expected to account for 37 percent of the imports, and newsprint, pulpwood, and other pulp products 56 percent. Veneer and plywood imports, which have been increasing rapidly since 1950, will account for the remaining 7 percent.

Stumpage prices decline in 1961

Because of the depressed demand for lumber and certain other timber

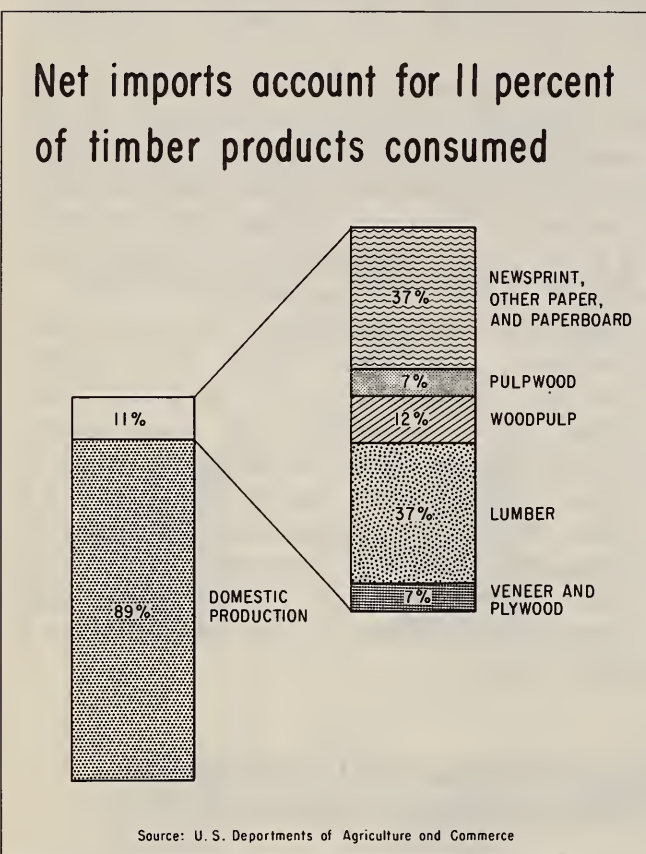


Figure 6

National-forest stumpage prices decline in 1961

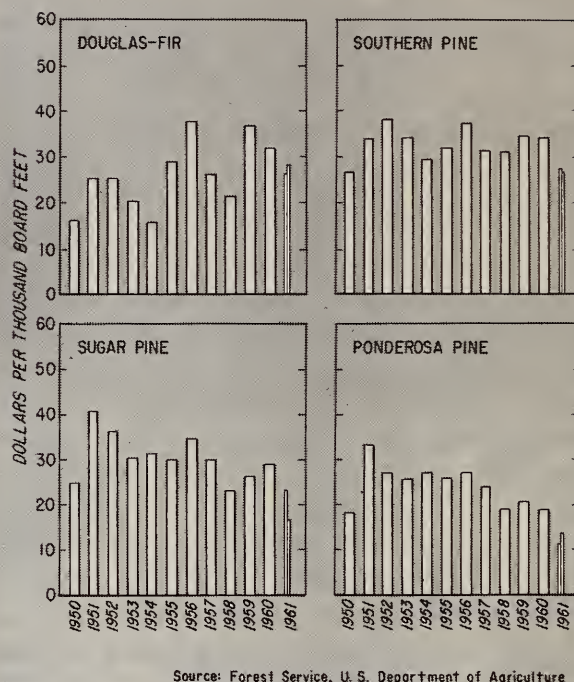


Figure 7

products, stumpage prices for national-forest sales of Douglas-fir, southern pine, ponderosa pine, and sugar pine declined during the first half of 1961 (table 4, fig. 7). During the second quarter, the price of Douglas-fir stumpage averaged \$28.60 per thousand board feet compared with \$32.00 during 1960. The price of ponderosa pine and southern pine stumpage showed a somewhat similar decrease.

Data published in a number of State reports on forest product prices (1, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 49, 50) suggest that prices of comparable private stumpage have followed similar trends. Illustrative stumpage prices quoted in several recent

reports are shown in the following tabulation:

<u>Species</u>	<u>State and source</u>	<u>Price of stumpage per thousand bd. ft.</u>
Saw-log timber:		
Southern pine ---	Louisiana (10)	\$27.80
Sweet gum -----	do.	10.40
White oak -----	Illinois (7)	10.00 - \$40.00
Hard maple -----	Ohio (17)	10.00 - 80.00
Yellow birch ----	Wisconsin (50)	25.00 - 60.00
Yellow-poplar ---	West Virginia (49)	5.00 - 30.00
Red cedar -----	Kentucky (9)	15.00 - 45.00
Red and black oak	Missouri (11)	3.00 - 25.00
Price of stumpage per cord		
Pulpwood timber:		
Southern pine ---	Louisiana (10)	\$4.20
Aspen -----	Wisconsin (50)	1.50 - \$2.50
Spruce -----	do.	6.00 - 10.00

Stumpage prices in these reports generally represent timber buyers quotations and are usually presented as a range of prices per thousand board feet without standardized specifications as to grade, log rule, other value factors, or sampling accuracy.

Stumpage is not a homogeneous commodity, and reported prices do not necessarily indicate values for any specific tract of timber. The data in table 5 show that prices received vary widely among species and region. These variations reflect differences in timber quality, amount of competition, timber accessibility, average size of trees, volumes per acre, special costs, and other related factors.

THE DEMAND AND PRICE OUTLOOK FOR LUMBER (SAW LOGS)

Lumber production drops 9 percent in 1961

Lumber production in 1961 is expected to total 32 billion board feet, a decrease of 9 percent from the 1960 output of 35.0 billion board feet (table 6, fig. 8). Production of softwood lumber is estimated at 27.3 billion board feet, and hardwood lumber at 4.7 billion board feet (table 7). These levels of production are respectively 6 percent and 23 percent below that attained in 1960.

For several decades softwoods have made up about four fifths of the lumber cut. This reflects the predominance of softwood species in the Nation's timber stands and the preference for these species in many uses. It is estimated that softwoods account for about 90 percent of the lumber used in construction, the major end use of lumber, and about 70 percent of that used in shipping. Hardwoods, however, are preferred for use in manufactured products where they make up about 70 percent of all lumber consumed.

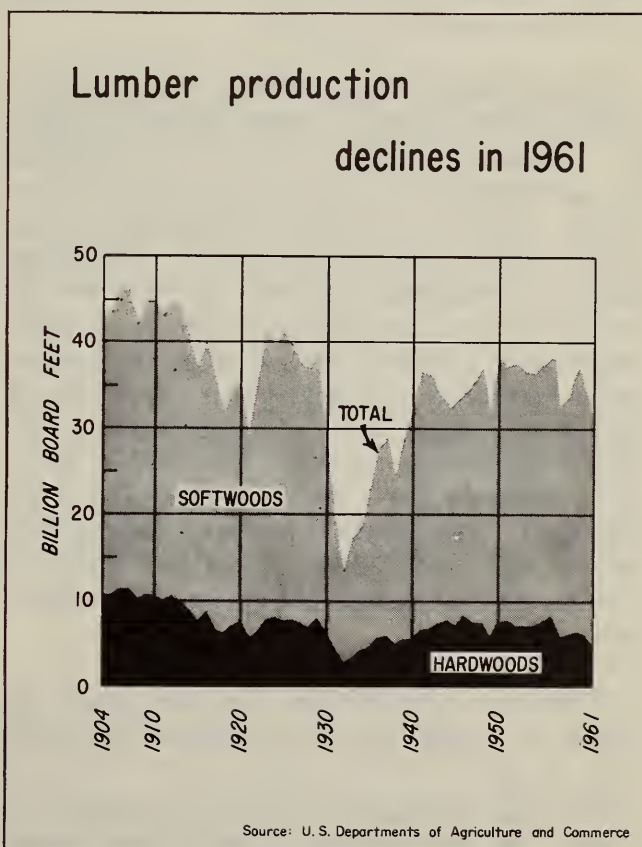


Figure 8

Douglas-fir, southern pine, ponderosa pine, western true firs, and hemlock account for most of the softwood lumber produced, and oak, gum, maple, yellow-poplar and cottonwood most of the hardwoods.

More than half the Nation's lumber comes from the West

About 19.2 billion board feet or 60 percent of the estimated 1961 lumber cut is expected to come from the West,² largely from the old-growth forests in Oregon, California, and Washington (table 7). Although the total cut was down, the proportion of the lumber produced in the West in 1961 was somewhat above the average of recent years. This is a continuation of an upward trend during the last few decades as the softwood lumber industry has come to depend more and more upon the extensive uncut forests of that region.

Some indication of the outlook for lumber production in the West is given in figure 9. This shows the volume of sawtimber in the West, South, and North in 1952 and the changes that have come about since then. Although the cut exceeds growth in the West, it looks as though that region, with its heavy concentration of sawtimber, will continue as the country's most important lumber-producing area for some time to come. Once the old-growth forests in the West are cut, however, the South will have important advantages in forest area, growth rates, and location in respect to major markets.

Lumber production in the South in 1961 is expected to amount to about

6.8 billion board feet of softwoods and 2.7 billion board feet of hardwoods. This level of production represents a substantial decline from the levels prevailing a decade or so ago. The South now accounts for 30 percent of national production, with North Carolina, Georgia, Alabama, Arkansas, Virginia, and Mississippi as the leading producing States.

In contrast to the West which ships most of its lumber to other areas, particularly to industrial centers in the East, only 20 percent of the lumber produced in the South is shipped out of the region (28). The rest is consumed locally--about 55 percent in the producing State and 25 percent in neighboring southern States.

Lumber production in the North in 1961 is estimated at 3.3 billion board feet, substantially below the average for the past 15 years.

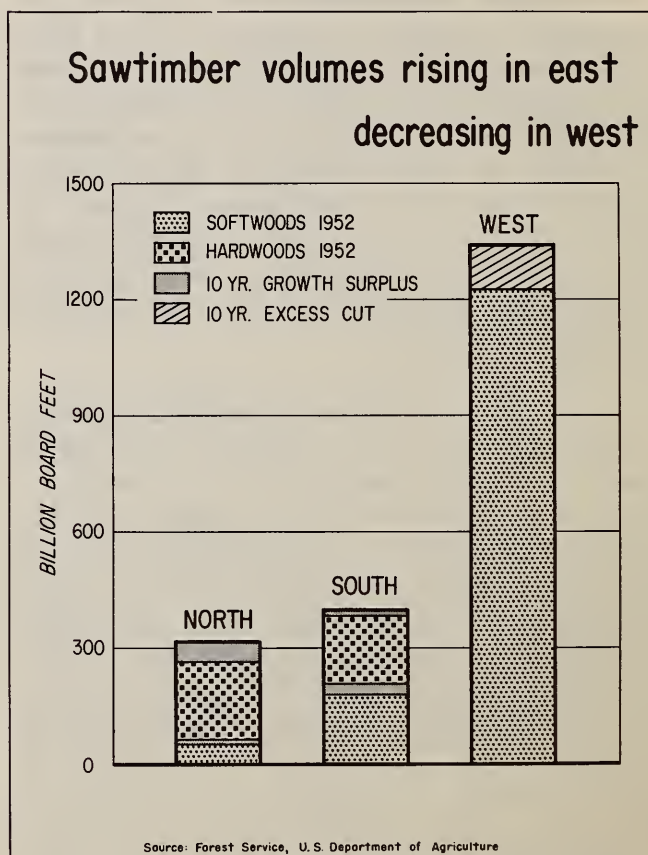


Figure 9

² The West includes the 11 Western States and South Dakota. The South consists of the 12 most Southern States, including Virginia. The North includes the remaining 24 States in the continental United States.

Pennsylvania, Maine, New York, Michigan, and Wisconsin are the leading lumber-producing States.

Imports show little change--exports, stocks, and consumption down

Imports of lumber, largely softwoods from Canada are expected to total 4.0 billion board feet in 1961--about the same as in 1960 and close to the record level of 4.1 billion board feet reached in 1959 (table 6). Exports are expected to decline somewhat to 0.7 billion board feet, 22 percent less than in 1960. Lumber stocks are also expected to drop about 0.2 billion board feet as the inventories built up in 1960 at sawmills are worked off.

When anticipated imports and removals from stocks are added to domestic production and exports subtracted, it appears that domestic lumber consumption in 1961 will total about 35.5 billion board feet. This will be about 5 percent under the 37.3 billion board feet consumed in 1960 and will be the lowest level of consumption since 1949.

Changes in residential construction explain some of the decline in consumption

Some of the decline in lumber consumption can be traced to changes in residential construction which have caused a drop in average unit lumber requirements. A rise in the construction of multifamily units, which use considerably less lumber per unit than single-family units, has been a major factor in this decrease. Since the mid-1950's, the number of multifamily units started has moved upward from around 150 thousand a year to around 350 thousand (fig. 10). In the same period, the number of

Some of the drop in lumber consumption due to rise in the construction of multifamily dwelling units

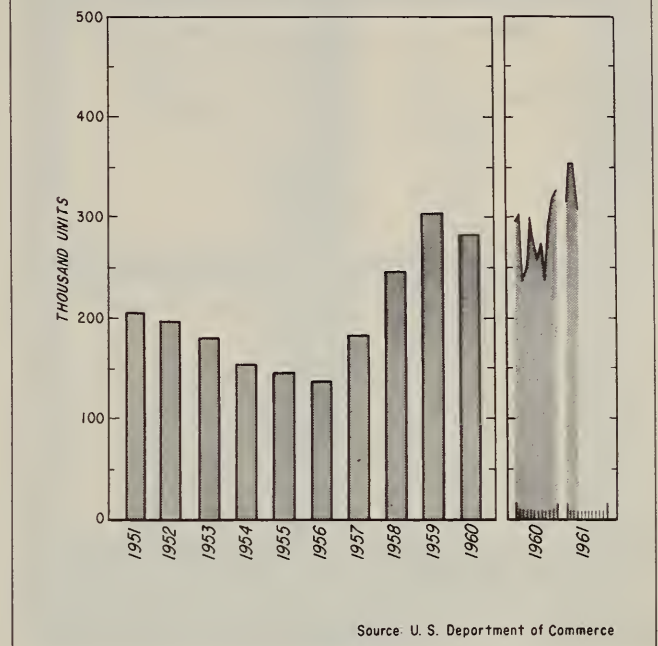


Figure 10

single-family units started fell from about 1350 thousand units to about 950 thousand.

In single-family dwellings the rapid increase in the number of units built on concrete slab foundations, which use no lumber joists or sills, has been an important cause of a drop in lumber consumption. According to data published by the Federal Housing Administration nearly half of the new single-family houses insured by that agency in 1961 utilized this type of foundation, compared with only about 5 percent a decade ago (2, 43.).

As a result of such changes in construction and substitution of other materials, per capita consumption of lumber has been decreasing at an average rate of 3.1 percent per year since 1950 (fig. 11). In contrast, per capita consumption of softwood plywood has been increasing at

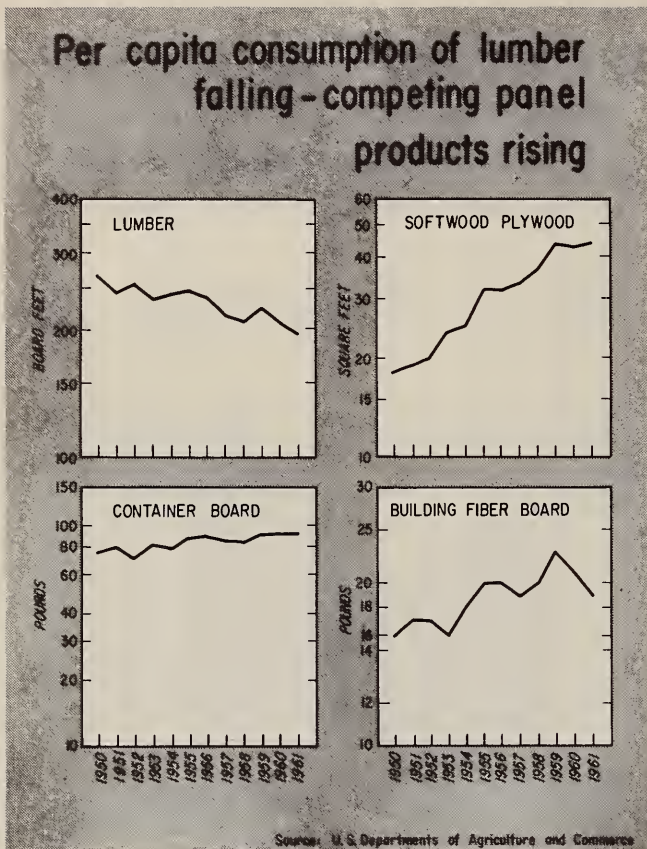


Figure 11

8.8 percent per year. Per capita consumption of building fiberboard and container board, the two other major substitutes for lumber in construction and shipping, has also been rising.

Rising wage rates in construction have favored the use of panel products such as plywood and building fiberboards which can be installed or fabricated with less labor than lumber in many uses. Substantial savings in freight charges can also be realized by substituting container board or other panel products for lumber in containers.

Although plywood, building fiberboards, and container board have accounted for much of the recent substitution for lumber, other materials such as masonry, aluminum, glass, and steel have also been replacing lumber. Some indication of

this is given by the data below which show changes since 1950 in proportions of single-family houses with different types of exterior wall construction.

Year	Type of exterior wall construction		
	Wood frame	Masonry	Other
	(percent)	(percent)	(percent)
1950-----	89	11	--
1955-----	77	20	3
1959-----	70	29	1

Source: (5, 23, 43). Data for 1950 and 1959 based on a sample of FHA insured single-family houses, 1955 data based on a sample of all single-family houses.

Wholesale lumber prices falling

Since 1959 the wholesale price index of lumber (1947-49=100) has dropped from 127.1 to 116.8,³ a decrease of 8 percent (table 8). In contrast there has been little or no change in the wholesale price index of structural steel, structural clay products, and plywood.

Along with the recent decline in lumber prices there have been increases in efficiency in the lumber industry. According to data from the Southern Pine Association, the number of man-hours required to produce a thousand board feet of lumber in large Southern sawmills has been falling at an average annual rate of 3.8 percent since 1947 (27). Average gains in productivity in the industry as a whole have probably been still greater because thousands of small sawmills, many of which use relatively large amounts of manpower per unit of output, have dropped out. Since 1953, for example, roughly 20 thousand such mills have stopped production.

As the small mills have left the industry, more of the Nation's lumber has been cut in the larger mills

³Wholesale price index as of July 1961.

that have been adopting improved marketing practices such as grade marking and packaging. Such improvements in marketing practices and further anticipated increases in mill efficiency could lead to a better competitive position for lumber in the raw-materials market.

Saw log prices show some decline

As a result of the drop in demand for lumber, saw log prices published in various State forest product price reports (1, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 20, 46, 47, 48, 49, 50) have shown some decline. Illustrative prices for various species are shown in the following tabulation:

Species	State and source	Price of sawlogs per thousand bd. ft.
Southern pine -----	Louisiana (<u>10</u>)	¹ \$48.60
Sweet gum -----	do	¹ 34.80
Yellow birch -----	Wisconsin (<u>50</u>)	² 45.00 - \$85.00
Douglas-fir (old-growth) -----	Oregon (<u>18</u>)	³ 45.00 - 55.00
Yellow-poplar -----	West Virginia (<u>49</u>)	¹ 20.00 - 65.00
White oak -----	Illinois (<u>7</u>)	¹ 35.00 - 50.00
Hard maple -----	Ohio (<u>17</u>)	40.00 - 100.00
Red cedar -----	Kentucky (<u>9</u>)	¹ 40.00 - 80.00
Tulip, poplar, bass-wood & cucumber-	DO	¹ 25.00 - 75.00
Red and black oak--	Missouri (<u>11</u>)	¹ 15.00 - 70.00

¹ F.o.b. mill.

² Woodsrun logs delivered at mill.

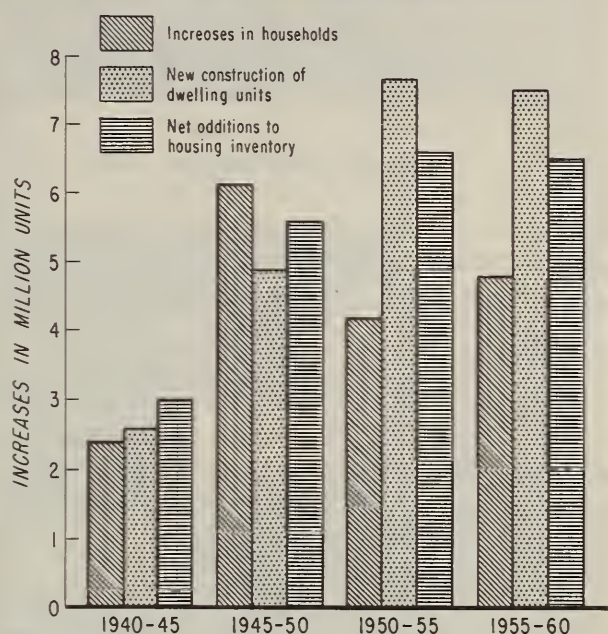
³ Camp run logs, Eastern Lane County

These price quotations are based on local scaling and grading systems and may be only roughly indicative of values of saw logs in any particular sale.

Residential construction one of the best indicators of future demand for lumber

During the 1950's the net increase in the housing inventory was much larger than new household formations (fig. 12). This has resulted in high

Since 1950 new construction and changes in inventory above household formation



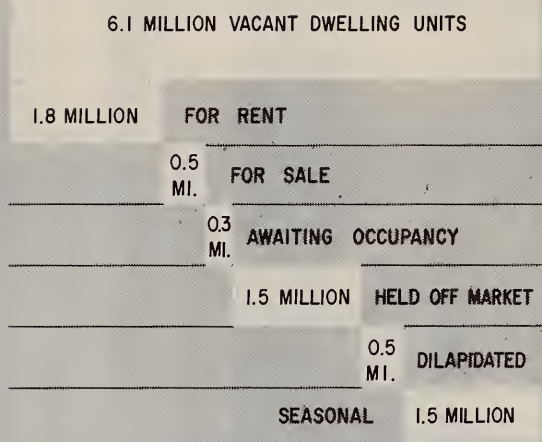
Source: Bureau of Census, U. S. Department of Commerce

Figure 12

vacancy rates. Currently about 10.3 percent of the housing inventory, or some 6.1 million dwelling units, are vacant (fig. 13). While most of these are classified as "held off the market," "dilapidated," or "seasonal," some 2.3 million units are for rent or sale. This is about three times the number of such units available in 1950. This high vacancy rate means that the huge backlog of housing demand which resulted from the Great Depression and World War II has been satisfied.

Thus during the next few years the demand for housing, which accounts for roughly half of all lumber consumed, is likely to depend to a greater degree than in the 1950's upon new household formation. According to projections of the Bureau of Census, household formation in the period 1960-65 will average 840 thousand units a year (fig. 14) (34), or about

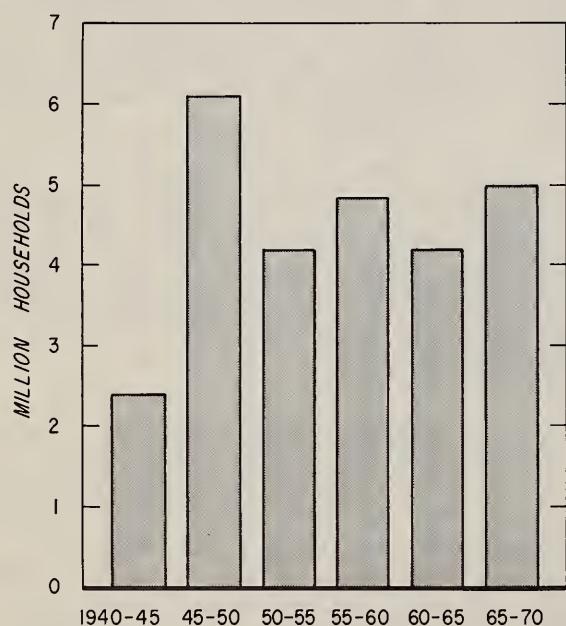
10 per cent of our housing some 6.1 million units are vacant



Source: Bureau of the Census, U.S. Department of Commerce

Figure 13

Household formation expected to show decline early 60's - rise late 60's



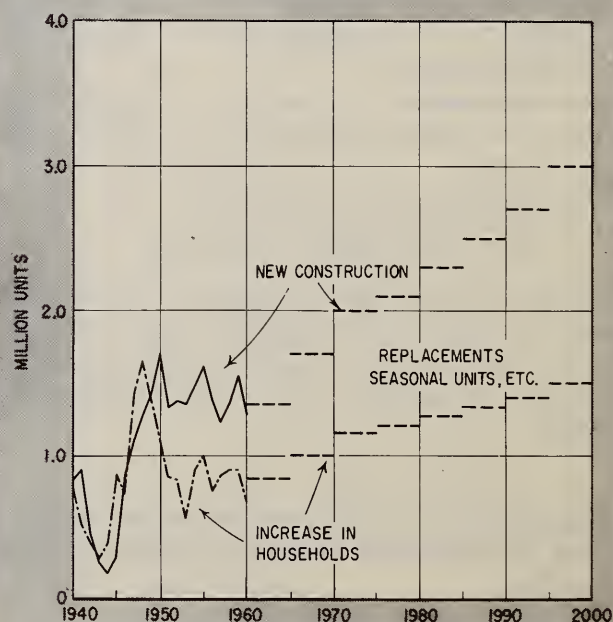
Source: Bureau of the Census, U.S. Department of Commerce

Figure 14

43 thousand units less than the average annual increase between 1955 and 1960.

While the Nation is better housed now than at any time in the past, there are still many low-income families and elderly people who live in substandard housing, and nearly a million married couples without their own households (29). Replacement of these substandard units and the construction of separate housing for the married will depend on a variety of factors. Certainly, however, the legislation recently enacted by Congress expanding the public housing program and permitting FHA to liberalize loans insured under its regular lending programs, and a decline in interest rates on conventional mortgages should have a favorable effect. Since World War II, residential construction has been responsive to such changes (4).

Residential construction expected to show substantial rise



Source: U.S. Departments of Agriculture and Commerce

Figure 15

By the mid-1960's, and continuing thereafter, the upsurge in births that started in the early 1940's is expected to be felt in a rise in the formation of new households. There is also likely to be increasing replacements of older dwellings and, as incomes rise, continued growth in the number of two-dwelling-unit families. Thus, by 2000, annual residential construction may amount to 3 million units, about twice that in the 1950's (fig. 15) (22, 26).

Should the tendency towards suburban sprawl be reversed and the construction of multifamily urban structures increased, as indicated by recent trends, it is likely that the unit requirements for lumber will continue to drop and that the total demand for lumber will not increase as rapidly as total residential construction. Nonetheless, the anticipated long term increases in residential construction should mean an ultimate rise in the demand for lumber and other timber products.

THE DEMAND AND PRICE OUTLOOK FOR PULPWOOD

Pulpwood production to reach a peak of 40.5 million cords

On the basis of trends during the first half of the year, pulpwood production in 1961 is estimated at 40.5 million cords (table 9) (32, 40). This represents a new production high--1 percent above 1960 and 10 percent above 1959.

Imports of pulpwood, largely softwoods from Canada, are likely to total about 1.3 million cords in 1961. This is somewhat below the 1.4 million cords imported in 1960 and about half of the peak imports of 2.5 million cords in 1951. Exports are expected to amount to about 0.2 million cords--20 percent above 1960. Pulpwood inventories were falling in early 1961, and by the end of the year may be 500 thousand cords below the year-end stocks of 1960.

When anticipated imports and removals from stocks are added to domestic production and exports subtracted, it appears that pulpwood consumption will be about 42 million cords (table 10). In addition it is estimated that the equivalent of 8 million cords of pulpwood will be imported (net imports) in the form of

woodpulp, newsprint and other grades of paper and board. Thus, total consumption in the United States in 1961 will amount to the equivalent of some 50 million cords. This is 3 percent above 1960 and about double that of 15 years ago.

Softwoods preferred for pulpwood

Softwoods have always been preferred for pulpwood and have accounted for between 75 and 85 percent of total production in recent decades. In 1961 they are expected to account for 79 percent of the pulpwood produced, including 80 percent of the production in the South, 54 percent in the North, and 97 percent in the West.

Southern pines make up about two thirds of the softwood pulpwood cut spruce and western true firs about one sixth; and hemlock, jack pine, and Douglas-fir the remaining one sixth. This is markedly different from 1920 when spruce and western true firs accounted for about three quarters of the softwood pulpwood output and southern pines only 6 percent.

Although the proportion of hardwood pulpwood has not changed appreciably for many years, recent trends indicate that production of hardwoods is now increasing more rapidly than softwoods. Since 1950, for example, production of hardwood pulpwood has been increasing at an average annual rate of 10.1 percent--nearly double the rate for softwoods (5.4 percent). This has been caused by intensified competition and higher prices for softwoods and the development of suitable processes for pulping hardwoods. The trend to hardwoods has been particularly noticeable in the North where for many years stands of preferred spruce and fir have not been adequate to meet the needs of the pulp industry and where large supplies of relatively low-cost hardwoods are available. Most of the increase in demand for hardwoods, however, has been for the less dense species, such as aspen and gum, and relatively little use is being made of the increasing supplies of hard hardwoods, such as oak, hickory, birch, and maple, which make up the greater part of eastern hardwood forests.

The South accounts for 59 percent of the pulpwood produced

About 59 percent of the pulpwood produced in 1961 is expected to come from forests in the South (fig. 16). Pulpwood production in that region has been climbing rapidly, rising from about 8.1 million cords in 1945 to 23.6 million cords in 1960 and an estimated 23.9 million cords in 1961. In spite of the rise in pulpwood production, recent forest surveys show increasing supplies of pine pulpwood timber in the South. This results partly from declines in the production of saw logs and other products and partly from improvements in protection and management of timberlands.

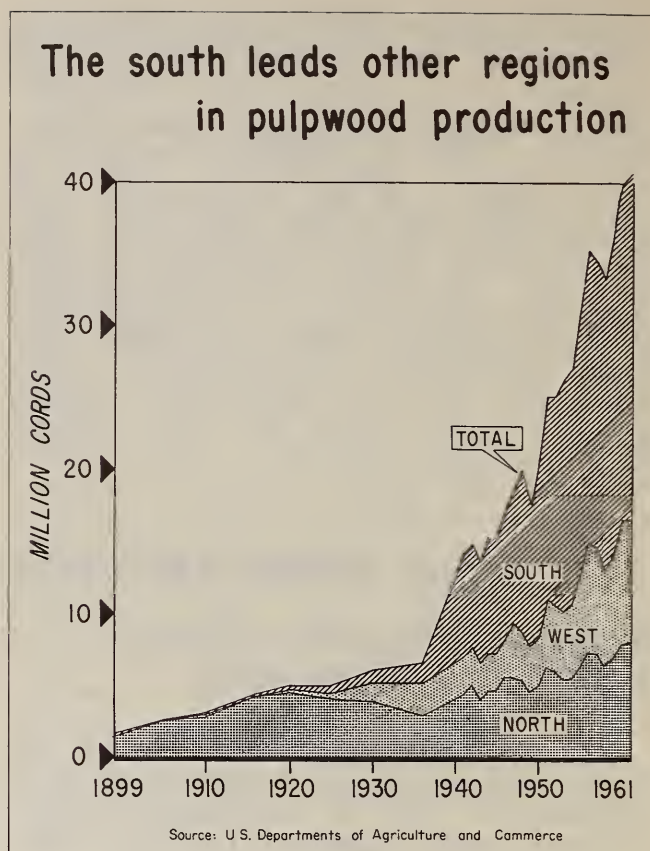


Figure 16

The rapid growth of the woodpulp industry in the South reflects a favorable timber supply and timber-cost situation. It also reflects such related things as the availability of labor, water, chemicals, power, excellent transportation facilities for both pulpwood and finished products, and the development of huge markets for kraft paperboard and packaging materials that are manufactured mostly from sulfate pulp produced from the southern pines.

Pulpwood production has also been climbing in the West, rising from about 2.5 million cords in 1945 to 8.6 million cords in 1961. A recent innovation in that region is the use of hardwoods. Production of hardwood pulpwood, largely alder, now amounts to about 300 thousand cords a year.

In the North, pulpwood production has climbed more slowly than in

other regions, rising from 4.7 million cords in 1945 to the 1961 level of 8.0 million cords. Most of the increase has been composed of hardwoods used in the production of semichemical and related pulps. A recent expansion in exports to Canada from the North has stimulated production.

Chipped mill residues account for one-fourth of the pulpwood produced

Production of pulpwood chips from residues of wood-using plants, largely sawmills, is expected to reach 8.1 million cords in 1961 (table 10, fig. 17). This represents about a quarter of total pulpwood production and marks a new high in a trend that has been sharply upward since 1944.

As with roundwood, softwoods have always composed most of the pulpwood chips. In 1961 softwood chips

are expected to amount to 7.6 million cords and hardwoods to 0.5 million cords. Douglas-fir and other western species will account for about two thirds of the softwood chips produced, and Southern pine the remaining one-third.

In the last few years the increase in production of pulpwood chips from residues has been particularly rapid in the South. Since 1953, production--largely from sawmills--has increased from 76 thousand cords to the present level of about 3 million cords. Some further increases are possible. However, much of this potential must come from pine mills whose annual production is presently considered too small to justify the installation of debarking and chipping equipment or from hardwood residues that are still not being widely utilized.

The increased production of pulpwood chips from residues in the South has had a significant impact on the demand for round pulpwood. For example, since 1956 nearly two thirds of the total increase in demand for pulpwood in that region has been met by chipped residues.

Production of pulpwood chips from residues in the West in 1961 is expected to amount to nearly 5 million cords. This represents a small increase over output in 1960 and a new high in a trend that has been rising rapidly since 1945. Chipped residues account for over half of the pulpwood produced in that region.

In the North, in contrast to the West and South, chipped residues are not being widely used. A few new chipping plants have been constructed in recent months, however, and the outlook for further expansion is promising.

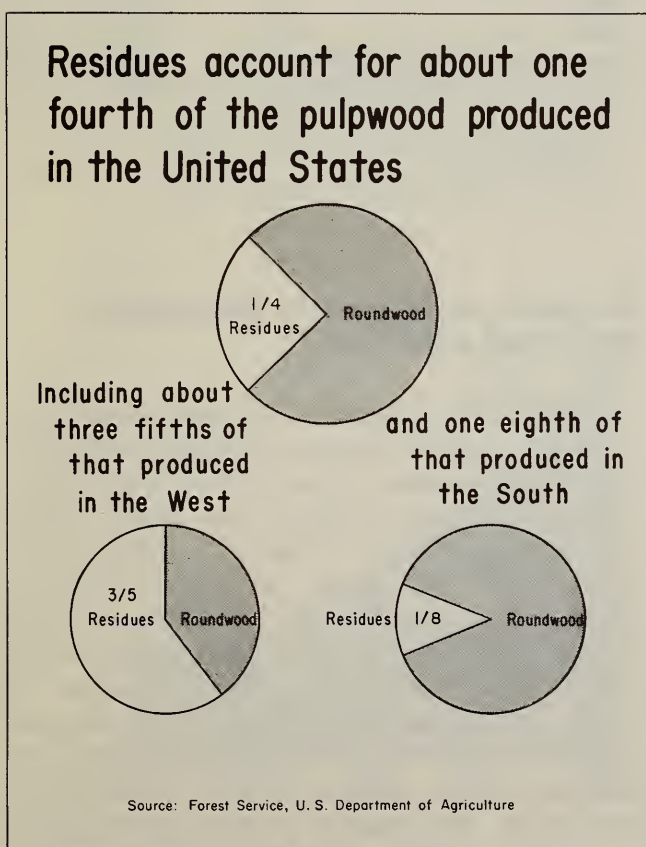


Figure 17

Pulpwood prices show little change

Pulpwood prices, at local points of delivery, have shown little change from the record levels attained in 1960 (table 11, fig. 18). In the Southeast, for example, the price of rough pine pulpwood in 1961 is expected to average about \$16.50 per cord--about the same as in 1960 and about 50 cents above the average in 1959. These price increases are quite small in relation to increases in production. This was caused in part by the increased use of residues and hardwoods.

Pulpwood prices show considerable variation among regions and species. In Wisconsin, prices f.o.b. car currently average about \$27.25 per rough cord for spruce, \$21.75 for balsam fir, and \$13.00 for aspen. In the

Northeast, prices f.o.b. car average about \$21.00 per rough cord for spruce and fir and \$15.00 for white pine. A recent study in the South indicates that most of the local price variation for a given species can be explained by competition and the level of general demand.

Several States publish reports containing price quotations for pulpwood (6, 7, 9, 10, 11, 13, 14, 15, 17, 46, 47, 50). The following tabulation, taken from selected State reports issued in 1961, contains some illustrative pulpwood prices at local points of delivery:

Species	State and source	Price of rough pulpwood per cord
Southern pine	----- Louisiana (10)	¹ \$ 14.20
Hardwood	----- do.	¹ 11.20
Mixed hardwoods	----- Wisconsin (50)	² 12.00 - \$ 15.50
Balsam fir	----- do.	² 20.00 - 23.50
Spruce	----- do.	² 26.00 - 28.50
Aspen	----- do.	² 11.00 - 15.00
Hardwoods & softwoods	- Illinois (7)	11.00 - 13.00
Hardwoods & softwoods	- Ohio (17)	² 12.40 - 17.60

¹ F.o.b. car.

² F.o.b. mill.

Further increases in demand for pulpwood expected

During the past 15 years consumption of pulpwood has increased at an average annual rate of 5.9 percent--somewhat more than one and a half million cords per year. In view of the expected increases in population and output of goods and services this trend seems likely to continue in the immediate future. The outlook is equally bright in the long run. Recent Forest Service projections, for example, have indicated that by 2000 the potential demand for pulpwood might be twice present consumption (22, 26).

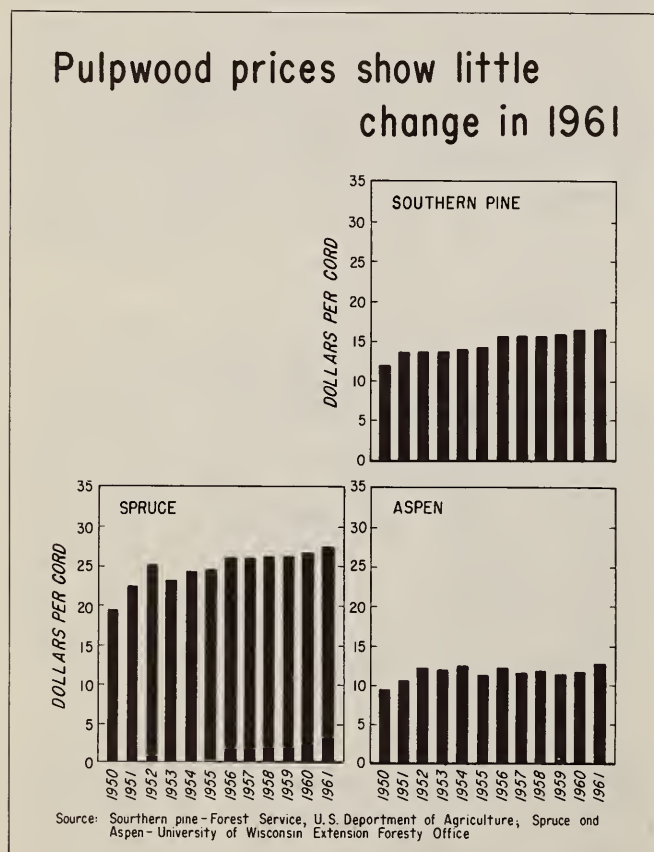


Figure 18

THE DEMAND AND PRICE OUTLOOK FOR VENEER LOGS

Softwood veneer log production up 5 percent in 1961

The rising trend in construction and industrial production and growing substitution has resulted in increases in demand for softwood plywood and veneer. Thus production of softwood veneer logs in 1961 is estimated at 3.7 billion board feet--about 5 percent above the 3.5 billion board feet produced in 1960 (table 12, fig. 19). This increase is a continuation of a trend which, during the last decade, has seen production expand about three times. This was largely caused by increasing use of softwood plywood in construction, where substitution for lumber has advanced rapidly. The development of waterproof glues that permit the use of softwood plywood in exposed locations has been a major factor in this development.

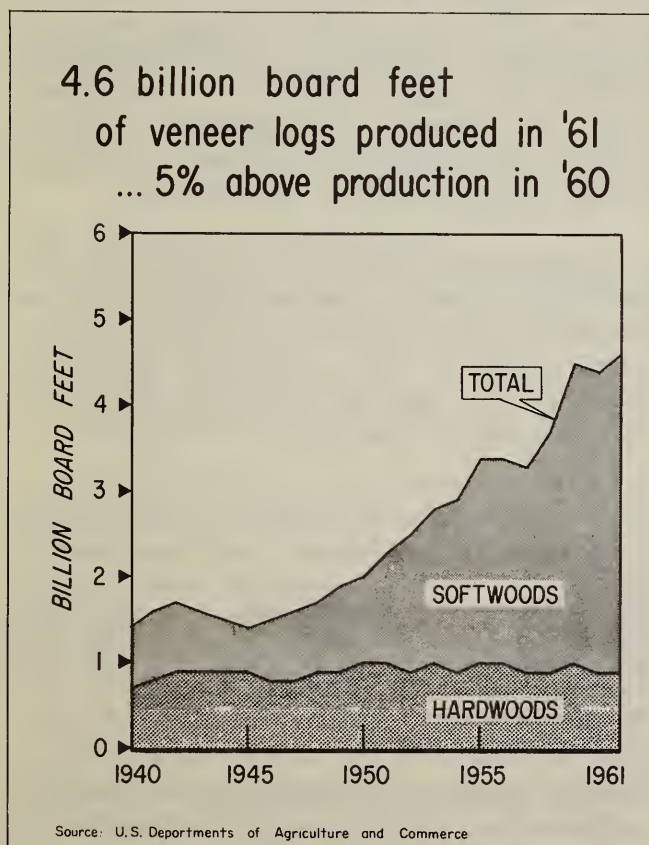


Figure 19

Part of the recent increase in consumption can also be traced to changing price relationships that have favored softwood plywood. As illustrated in table 8 and figure 20, the wholesale price index of softwood plywood in the last decade has declined appreciably in relation to the price of lumber, paperboard, and other commodities. Rising wages in construction and manufacturing industries have added to this price advantage, since plywood can be put in place with less labor than lumber. It has been estimated, for example, that sidewall plywood sheathing can be installed at about half the labor cost required for lumber (51).

Four new softwood plywood plants are scheduled to begin production in 1961. When these are completed, there will be 158 mills in the industry.

Softwood plywood prices decreasing relative to most competing materials

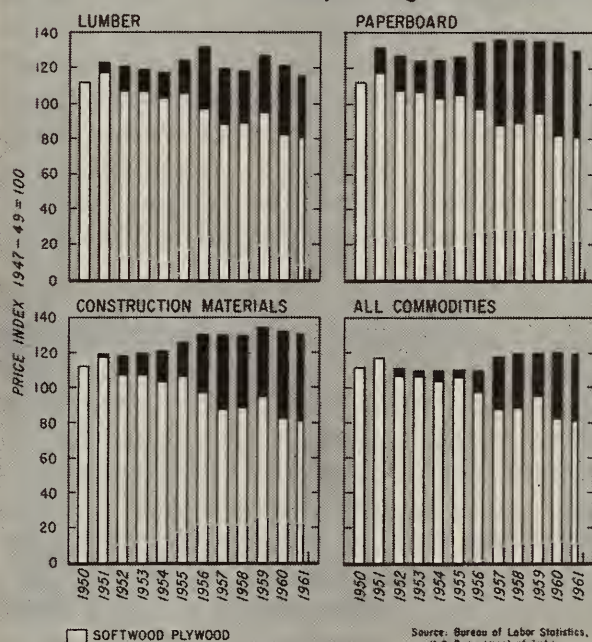


Figure 20

Nearly all of the domestic mills are located in Oregon, California, and Washington.

In the past, Douglas-fir has composed about 95 percent of the logs used for softwood plywood. In recent years, however, significant progress has been made in expanding the use of other species.

Little change in the output of hardwood veneer logs

Since the early 1950's there has been little change in the volume of domestic hardwood veneer logs produced. Annual output has averaged about 900 million board feet, the expected level for 1961. Imports of hardwood veneer and plywood, however, have increased substantially, and total veneer and plywood consumption in 1961 is expected to amount to the equivalent of 1.4 billion board feet of logs--25 percent above the level of a decade ago.

Plywood made of luan has accounted for nearly all imports. This plywood is favored for flush doors and interior paneling because of its beautiful natural appearance, good physical characteristics, and low price when compared with plywood manufactured from domestic species. Japan and the Philippines have supplied most of the luan imports.

Hardwood plywood is used for wall paneling and the manufacture of flush doors, furniture, cabinets, containers, and mobile homes. A big factor in the recent increase in hardwood plywood consumption has been the replacement of the traditional panel door by flush doors made largely from plywood. Between 1947 and 1958, for example, production of flush doors increased from a few hundred thousand to more than 15 million.

The domestic hardwood veneer and plywood industry consists of about 500 plants located largely in the East. Birch, gum, maple, oak, cherry, and walnut are the preferred species for face veneers, and basswood, cottonwood, poplar, and willow for core or interply veneers.

Veneer log price quotations show little change

In mid 1961, price quotations for Douglas-fir No. 1 peeler logs ranged between \$109 and \$115 in the Puget Sound log market and from \$119 to \$125 in the Columbia River market (21). This was somewhat below the reported prices of last year.

Reported prices for hardwood veneer logs have been relatively stable in recent years, although prices by grades and species vary widely. Price reports for yellow birch veneer logs, for example, show a current range of from \$150 to \$250 f.o.b. mill in Wisconsin, whereas cottonwood and soft elm logs used in the manufacture of veneer for baskets, berry boxes, and other containers average about \$50 delivered at mill (50).

Illustrative veneer log prices for various species, taken from some of the State forest product price reports published in 1961 (1, 6, 7, 8, 9, 14, 17, 18, 20, 46, 47, 50) are shown in the tabulation below:

Species	State and source	Price of veneer logs per thousand bd. ft.
Hard maple---	Wisconsin (50)	\$90 - \$150
Yellow birch--	do.	150 - 250
Douglas-fir---	Oregon (18)	280 - 105

¹F.o.b. mill.

²Eastern Lane County.

These price quotations must be considered as only roughly indicative of values for any particular sale of veneer logs.

THE DEMAND AND PRICE OUTLOOK FOR OTHER TIMBER PRODUCTS

Production of industrial roundwood products, such as cooperage logs, poles and piling, fence posts, hewn ties, round mine timbers, and a miscellaneous assortment of other products, amounted to an estimated 620 million cubic feet in 1961 or

about 7 percent of the industrial roundwood produced (table 2).

Illustrative recent price quotations for selected products and species are shown in the following tabulation:

<u>Product</u>	<u>State and source</u>	<u>Unit of measure</u>	<u>Price</u>
Poles:			
Southern pine-----	Louisiana (<u>10</u>)	30 ft. poles	¹ \$2.65 - \$3.90
		50 ft. poles	¹ 12.00 - 19.00
		70 ft. poles	¹ 39.50 - 54.00
White cedar -----	Wisconsin (<u>50</u>)	25 ft. poles	² 2.75 - 3.20
Piling:			
Pine and hardwoods --	Wisconsin (<u>50</u>)	40 ft. lengths	² 12.80
Posts:			
White cedar -----	Wisconsin (<u>50</u>)	6" by 10' peeled posts	³ .55 - .58
Box and excelsior bolts:			
Aspen -----	Wisconsin (<u>50</u>)	4' by 4' by 80" to 100" cord	¹ 12.00 - 18.00
Pine -----	do.	4' by 4' by 80" to 100" cord	¹ 20.00 - 25.00
Cooperage - stave bolts:			
White oak -----	Illinois (<u>7</u>)	chord foot	¹ .70 - 1.10

¹Delivered to mill.

²At delivery point.

³Delivered to yard.

Consumption of Christmas trees in 1961 is expected to be about 45 million trees. Annual imports from Canada have been between 10 and 12 million trees, indicating that the demand for Christmas trees from domestic forests and plantations will be from 33 to 35 million trees. Prices paid for Christmas trees on the stump vary widely but generally range from \$0.25

for wild trees to \$2.50 or more for plantation-grown trees (19).

In recent years the acreage of Christmas tree plantations has increased substantially. This suggests increasing competition for available markets in the future and lower prices than growers have been receiving.

THE DEMAND AND PRICE OUTLOOK FOR NAVAL STORES

During the 1961 crop year ending next March 31, it is estimated that the market value of the primary processed derivatives from all types of naval stores will be close to 140 million dollars. Rosin, once discarded as an unwanted by-product in the production of turpentine, is expected to account for about 87 percent of this total value. On the other hand, turpentine, now a by-product, is estimated to represent only 5 percent of total naval stores market value.

Production overall remains about the same but sources shift

Not much change, possibly a slight increase, is expected in rosin and turpentine production during the 1961 crop year. If, as expected, production of all types of rosin reaches 2,035,000 drums, it will be only about 1.2 percent more than last year but, nevertheless, the greatest output in 10 years. Sources of output are changing. A 10 percent reduction in output of steam distilled wood rosin should be fully offset by increases in gum and tall oil rosin of about 27 and 11 percent, respectively. Thus, during the current crop year, rosin production should divide percentage-wise about 23-54-23 among gum, steam distilled wood and sulfate (tail oil) sources. The corresponding proportion of turpentine output is estimated at 24-24-52. Future percentages should be lower for steam distilled and higher for sulfate and gum sources of naval stores.

As a whole, no significant change is expected in the domestic production of rosin during the next few years. Output sources, however, should continue to shift (Fig. 21). Production of steam distilled wood rosin reached its peak (1.4 million drums) in 1955.

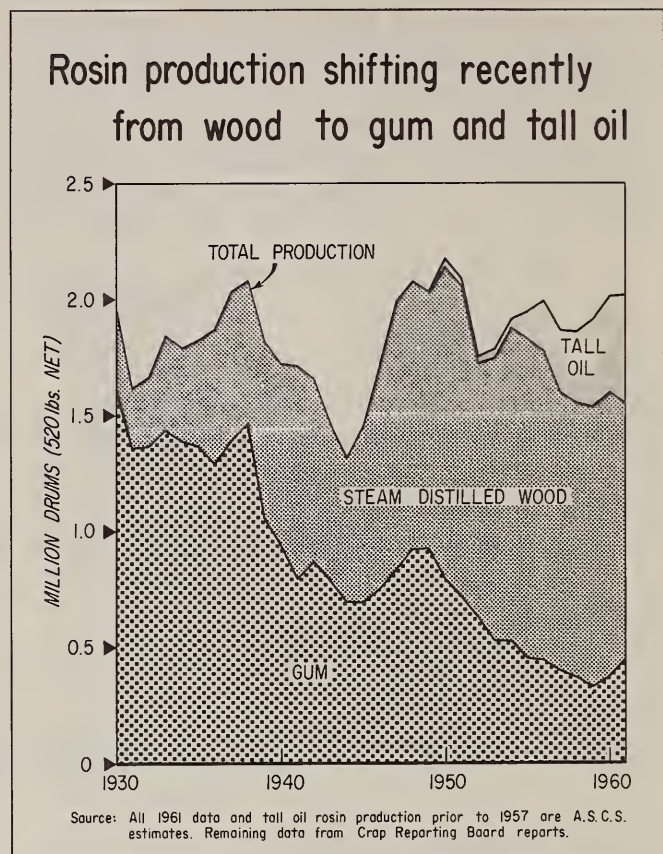


Figure 21

After stabilizing at about 1.2 million drums during the 1957-1960 crop years, output has resumed its downward trend. During the decade of the sixties, further significant stump depletion is expected in the area west of Georgia and Florida which, in recent years, reportedly has supplied nearly 40 percent of stump tonnage for steam distilled output. Thus, unless some plants in that area are moved toward the already largely committed stump resources in Florida and Georgia, or unless increasing price or decreasing cost factors warrant utilization of ponderosa pine stumps, production of steam distilled wood rosin is likely to continue shrinking as will steam distilled wood turpentine output.

Declining steam distilled wood naval stores should be offset by

increased output from other sources. If all of the 1961 crude tall oil production were fractionated, tall oil rosin output would approach 550 thousand drums. During January-Aug. 1961, about 85 percent of crude tall oil output was fractionated. The remaining 15 percent was consumed directly as crude tall oil in specific end uses, added to stocks, utilized domestically in the production of refined tall oil, or exported. The percentage of crude tall oil used in the production of tall oil rosin has been increasing annually approximately in line with growth in fractionating capacity and rosin demand, but determined in part by competing demand for crude tall oil and by market conditions for fatty acid tall oil, a co-product of fractionation. Thus, in the 1961 crop year, output of tall oil rosin has been stimulated not only by high rosin prices, but by improved demand for tall oil fatty acid. If and when all crude tall oil is fractionated, the annual growth rate of tall oil rosin output should be reduced from an average of about 15 percent during the 5 years ending next March 31, to barely 5 percent. Tall oil rosin output is limited not only by sulfate pulp production, but also by the increasing volume of hardwoods utilized in the sulfate process. Under these circumstances it is likely that tall oil rosin production may approximate 600 thousand drums by 1965 and 750 thousand drums by 1970.

If overall U.S. rosin production is to continue at the current level, it probably will be necessary to increase gum rosin output. This type of rosin has the greatest growth potential. An unbroken 10 year downward trend in gum rosin production was reversed in 1960 by record high rosin prices. Following an 11 percent increase in 1960, gum rosin production should increase by about one fourth in 1961.

Further expansion in output, as required, will come with satisfactory returns to gum farmers for crude pine gum through stabilized gum rosin prices, reasonable processing margins, continued improvements in forest management and production practices, and the availability in the years ahead of higher yielding pines.

Future production of turpentine will be determined largely by demand for rosin and kraft paper and board. However, crude sulfate turpentine production is flexible to the extent that during periods of low demand and prices it often is more advantageous to use part of the turpentine output for fuel than to store it. This has been the case during the 1960 and 1961 crop years.

Increased stocks in prospect

Both rosin and turpentine carryout stocks are likely to be higher next March 31. Based on production, domestic consumption, and export trends through August 1961, it is probable that rosin carryout stocks next March 31 will be about 60 percent higher than a year ago, but about 25 percent below the average for the past 10 years. All types of rosin are expected to participate in this increase, the greatest proportionate change being in stocks of tall oil rosin. Although about 120 thousand drums of gum rosin (25 percent of the crop) are likely to be placed in the 1961 price support loan, the overall increase in gum rosin carryout should be comparatively modest because of redemptions during the low production months and reduced consumer holdings.

The turpentine carryout next March 31 is expected to rise for the third consecutive year, reflecting increased sulfate turpentine stocks.

Not much change likely in domestic rosin consumption

The domestic rosin market continues to be haunted by the effects of the high price levels of 1960 and consumer inventories accumulated mainly during the 1959 crop year. Overall, domestic consumption of rosin is not expected to change significantly in 1961.

Rosin in years past has been an inexpensive, versatile organic product with a wide variety of markets. Domestic consumption has fluctuated widely since the end of World War II. When supplies are threatened, as in 1950 and 1959, disappearance increases sharply and prices rise. Higher prices and increased consumer holdings in turn reduce domestic disappearance, as in 1952, 1960, and 1961 (Fig. 22). At such times, consumers tend to reduce rosin con-

tent of formulations or shift to substitutes.

Since the end of World War II, increasing rosin requirements for paper, rubber, adhesives and printing ink, have more than offset reduced demand for rosin in soap and protective coatings.

Although production of paper and board increased 1 percent in 1960 and is expected to grow another 3 percent in 1961, utilization of rosin in paper size has declined because high rosin prices in 1960 accelerated the shift to fortified size. The latter requires only about 60 percent as much rosin as regular size. However, reportedly, most domestic paper operations which can economically use fortified size already are doing so. Also, higher prices resulted in an increased use of rosin size substitutes.

Future growth is likely in utilization of paper. In 1960 an average of about 7 pounds of rosin was used in sizing paper and board output - a ratio likely to be duplicated in 1961. This represents economical application and compares with about 10 pounds per ton in 1950 and an average of 8.2 pounds during the 10 crop years 1951-60. Use of rosin in size has been increasing because the growth rate of paper and board output has exceeded the rate of decline in rosin size utilization per ton. Assuming a 45 percent expansion in paper and board output by 1975, rosin utilization in size (at 7 pounds per ton) would increase to nearly 700 thousand drums compared with about 480 thousand drums utilized in 1960.

Trade sources estimate that about 15 percent of the rosin consumed domestically does into rubber. Use of rosin in rubber is not likely to

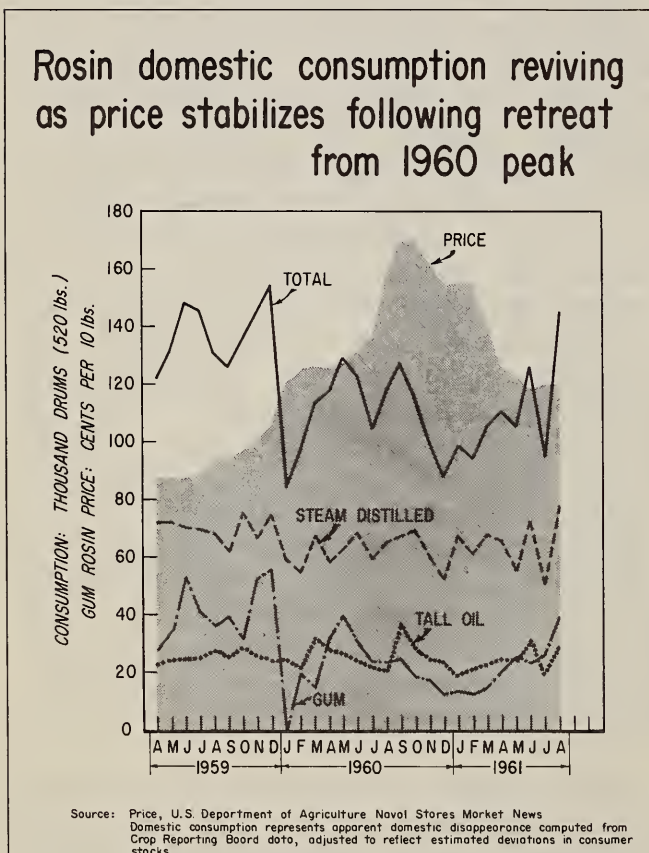


Figure 22

increase in 1961 because S-type rubber output is depressed. The future output trend for this commodity (and the consequent long-term outlook for this rosin outlet is uncertain owing to the development and rapid growth of competitive synthetic rubber which reportedly uses no rosin. Also, some inroads into the rubber market have been made by petroleum derivatives. Nevertheless, it is likely that rubber will continue to be a significant outlet for rosin during the next decade.

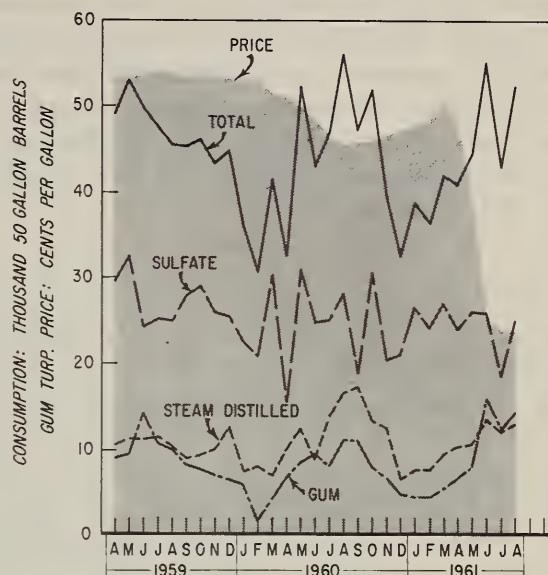
The upward trend of rosin consumption in printing inks was reversed by high rosin prices in 1960. Substitute materials have partially replaced rosin in printing inks. At present rosin price levels, no further significant change is likely in rosin utilization in printing ink during the sixties.

The gradual decline in rosin requirements for protective coatings has been accelerated during the past two years. For a number of years, less costly tall oils and fatty acids have been replacing rosin in this field of utilization.

Domestic consumption of turpentine expected to increase

Domestic consumption of turpentine, stimulated by low prices, is expected to increase in 1961 (Fig. 23). The trend toward industrial utilization of turpentine begun in 1948 and briefly interrupted in 1960, is likely to be resumed. Retail merchandising of turpentine for solvent purposes may be smaller in 1961 despite a 50 percent reduction in price of gum and steam distilled turpentine since April. This situation results from continued low price competition of petroleum derived solvents, the growth in markets for water based paints at the expense of oil based paints, and the

Drastic price decline stimulates domestic consumption of gum and SD turpentine



Source: Price, U.S. Department of Agriculture Naval Stores Marketing News
Consumption, Domestic disappearance computed from Crop Reporting Board data.

Figure 23

proposed poison labelling regulations published by the Food and Drug Administration in the Federal Register last April. The latter development reportedly brought a sharp curtailment in retail sales and abruptly broke gum and steam distilled wood turpentine prices. Following industrywide protests, including aggressive action of the American Turpentine Farmers Association Cooperative, FDA later substantially revised and ameliorated the regulations.

Turpentine is consumed industrially through fractionation, mainly into alpha and beta pinene. Nearly 30 percent of these turpentine fractions are exported, the remainder being absorbed domestically, mainly in synthetic pine oil, insecticides and synthetic resins.

At present, about 30 percent of industrially consumed turpentine goes

into synthetic pine oil. Future requirements for synthetic pine oil are likely to be increased by the anticipated decline in steam distilled production and consequent reduced availability of natural pine oil. Moreover, increased efforts are being made to develop greater consumer demand for pine oil in detergents and other cleaning agents. Other important outlets for domestic pine oil are in ore flotation and exports.

About 15 percent of industrially consumed turpentine goes into insecticides. Although competition in this field is keen, the volume of turpentine utilized is likely to continue high. The current trend appears to be toward blended insecticides to prevent resistance buildup of insect strains to a single type of insecticide.

Synthetic resins currently absorb about 15 percent of industrially used turpentine. This end use is expected to increase significantly in the years ahead.

U.S. rosin exports decline as foreign consumers reduce inventories and foreign output increases

Rosin exports may be about $\frac{1}{4}$ less in 1961 owing mainly to an estimated 7 percent increase in foreign output and absorption by foreign consumers of inventories accumulated during 1959 and 1960. However, the outlook during the 1960's is for continuing importance of the export market to U.S. rosin.

Although the volume of U.S. naval stores production as a whole has not changed significantly during the post World War II period, the U.S. share in an expanding world output has been declining (Fig. 24). Thus, U.S. output

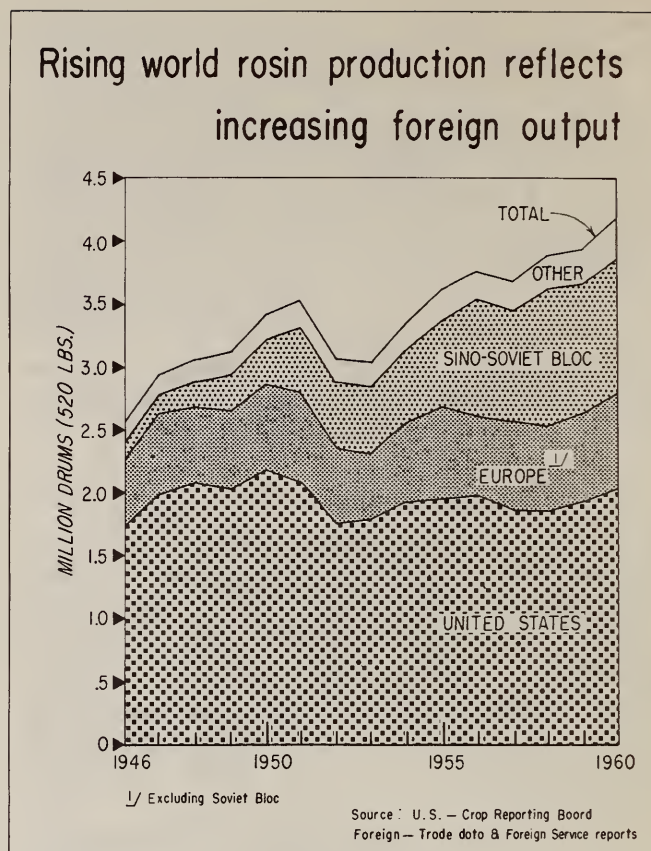


Figure 24

which averaged 66 percent of world production during the postwar years 1946-50, represented only 48 percent of the world total in 1960.

If postwar production trends are continued, foreign rosin production may increase about 50 percent (1.1 million drums) over the 1960 level in the next decade. The bulk of this increase is likely to be in Communist Bloc countries, India, Turkey and Latin America. However, considering post World War II trends in foreign rosin consumption and assuming an annual growth rate of about 6 percent in foreign industrial productivity during the 1960's, foreign consumption is forecast to increase by about 43 percent (1.2 million drums) during the next ten years. Consequently, it is expected that exports during this period will continue to comprise 25 to 35 percent of the market for U.S. rosin.

Lower turpentine exports likely

Turpentine exports are likely to be lower in 1961, reflecting mainly an estimated 6 percent increase in foreign production of turpentine. As in the case of rosin, the U.S. share of world turpentine production has declined from about 60 percent during 1946-50 to about 42 percent in 1960.

Turpentine exports rose to about 125 thousand barrels in 1956 and since have declined each year except 1960 when exports increased nearly 13 over 1959. Turpentine export statistics may be somewhat misleading as a criterion of foreign demand for U.S. turpentine because substantial quantities of turpentine fractions are exported, particularly to the United Kingdom and Germany. These fractions are not included with turpentine exports in U.S. Dept. of Commerce reports.

During 1961 it is estimated that exports of turpentine, as such, will account for about 12 percent of U.S. turpentine disappearance. Assuming continued increase in foreign turpentine output (in approximate proportion to anticipated expansion of rosin production) U.S. turpentine exports are not likely to increase during the sixties unless such exports are increased at the expense of turpentine derivatives.

Rosin price decline averted through gum producer action

Although domestic and export disappearance of all types of rosin in 1961 is likely to be down about 6 percent from 1960, gum rosin prices have been stabilized at about 12 dollars per 100 pounds, about 12 percent above the average loan support rate of the 1961 price support program. This situation reflects bold and aggressive utilization of the loan program by the producer-members of the American Turpentine Farmers Association Cooperative. If, as expected, the producer cooperative membership continues to act together, in marketing crude pine gum, the current gum rosin price level should be maintained. Rosin prices at present are down about 40 percent from their all-time peak in 1960.

Turpentine price halved since April

Gum turpentine prices, as already stated, declined sharply last May and June to the lowest level in twenty one years. In terms of constant dollars, the price during the summer of 1961 was easily the lowest on record. This low price stimulated domestic consumption. If this increased consumption continues, it may be that prices will rise slightly during the low production winter months. The sales program for CCC turpentine stocks (34,595 barrels) announced September 11, is expected to have no adverse effect on current price levels.

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APPENDIX

TABLE 1.--Trends in gross national product, expenditures for new construction, business expenditures for new plant and equipment, number of housing starts, population and industrial production in the United States, 1929-1961

Year and quarter	Gross national product (1960 prices)	Expenditures for new construction in 1947-49 prices			Business expenditures for new plant and equipment	No. of housing starts	Population	Index of industrial production
		Total ¹	Residential ¹	Non-residential				
	<i>Billion dollars</i>	<i>Million dollars</i>	<i>Million dollars</i>	<i>Million dollars</i>	<i>Billion dollars</i>	<i>Thousand units</i>	<i>Millions</i>	<i>1947-49 = 100</i>
1929.....	207.1	20,853	7,250	13,603	--	--	121.8	58
1930.....	187.6	17,440	4,261	13,179	--	--	123.1	48
1931.....	173.4	13,977	3,486	10,491	--	--	124.0	40
1932.....	147.5	8,892	1,658	7,234	--	--	124.8	31
1933.....	144.1	6,631	1,237	5,394	--	--	125.6	37
1934.....	158.0	7,725	1,515	6,210	--	--	126.4	40
1935.....	173.2	9,081	2,528	6,553	--	--	127.2	46
1936.....	197.9	13,489	3,899	9,590	--	--	128.1	55
1937.....	208.2	13,620	4,224	9,396	--	--	128.8	60
1938.....	198.8	13,492	4,219	9,273	--	--	129.9	47
1939.....	215.2	16,080	5,615	10,465	5.5	--	130.9	58
1940.....	233.8	16,767	6,308	10,459	--	820	132.1	66
1941.....	272.6	21,714	7,216	14,498	--	904	133.4	85
1942.....	311.4	22,852	3,935	18,917	--	465	134.9	105
1943.....	350.8	12,812	2,695	10,117	--	258	136.7	125
1944.....	376.3	8,174	1,573	6,601	--	180	138.4	123
1945.....	369.1	8,681	1,928	6,753	8.7	286	139.9	106
1946.....	321.7	16,492	6,595	9,897	14.8	856	141.4	90
1947.....	321.1	19,089	8,233	10,856	20.6	1,095	144.1	99
1948.....	333.6	22,235	9,784	12,451	22.1	1,265	146.6	103
1949.....	334.2	23,527	9,831	13,696	19.3	1,415	149.2	98
1950.....	362.3	27,990	13,340	14,650	20.6	1,696	151.7	113
1951.....	392.0	28,327	11,307	17,020	25.6	1,328	154.4	123
1952.....	406.8	29,123	11,322	17,801	26.5	1,368	157.0	127
1953.....	425.5	30,459	11,824	18,635	28.3	1,348	159.6	138
1954.....	416.8	32,612	13,058	19,554	26.8	1,481	162.4	130
1955.....	449.7	35,702	15,291	20,411	28.7	1,614	165.3	146
1956.....	459.2	34,681	13,873	20,808	35.1	1,380	168.2	151
1957.....	467.8	34,944	13,286	21,658	37.0	1,218	171.2	152
1958.....	459.7	35,418	14,192	21,226	30.5	1,356	174.1	141
1959.....	490.6	39,904	18,456	21,448	32.5	1,554	177.3	159
1960 ²	504.4	38,421	16,294	22,127	35.7	1,279	180.7	164
1961 ^{2 3}	--	--	--	--	--	--	--	--
First quarter.....	⁴ 500.8	38,279	14,984	23,295	33.8	1,257	182.7	155
Second quarter.....	⁴ 516.1	38,750	16,034	22,716	33.5	1,324	183.4	164

¹ These data do not reflect the revisions in the housing-start series shown in column 6; revisions of value put in place data to reflect the revised level of housing starts are being prepared by the Bureau of Census (39).

² Preliminary estimates.

³ Except for population, data shown by quarters are seasonally adjusted annual rates. Expenditures for new construction, number of housing starts, and the index of industrial production are 3-month averages. Population figures are for the month ending each quarter.

⁴ Estimates in 1961 dollars.

Source: Gross national product 1929-59, business expenditures for new plant and equipment 1939, 1945-59, and index of industrial production 1929-58, Office of the President, Economic Report of the President, January 1960 and 1961 (16).

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TABLE 2. --Estimated production, net imports, and new supply of timber products in the United States, 1900-1961

(Million cubic feet, roundwood equivalent)

Year	Total domestic production	Total new supply	Industrial roundwood ¹													Fuel-wood ²
			Total			Saw logs			Veneer logs			Pulpwood			Other prod-ucts ³	
			Domestic pro-duction	Net im-ports	New supply ⁴	Domestic pro-duction	Net im-ports ⁵	New supply ^{4 6}	Domestic pro-duction	Net im-ports ⁷	New supply ⁴	Domestic pro-duction	Net im-ports ⁸	New supply ^{4 9}	New supply	New supply
1900.....	12,085	11,940	7,285	* 140	7,140	5,680	* 175	5,505	5	--	5	135	35	170	1,460	4,800
1901.....	12,230	12,120	7,580	* 110	7,470	5,930	* 150	5,780	5	--	5	150	40	190	1,490	4,650
1902.....	12,380	12,320	7,880	* 60	7,820	6,180	* 110	6,070	10	--	10	160	50	210	1,525	4,500
1903.....	12,565	12,425	8,215	* 140	8,075	6,445	* 195	6,255	15	--	15	175	55	230	1,575	4,350
1904.....	12,690	12,540	8,490	* 150	8,340	6,675	* 205	6,470	20	--	20	190	60	250	1,600	4,200
1905.....	12,675	12,585	8,625	* 90	8,535	6,755	* 155	6,600	35	--	35	195	65	260	1,640	4,050
1906.....	13,125	13,030	9,225	* 95	9,130	7,145	* 170	6,975	60	--	60	225	75	300	1,800	3,900
1907.....	13,380	13,265	9,555	* 115	9,440	7,145	* 215	6,930	65	--	65	235	100	335	2,110	3,825
1908.....	13,700	12,620	8,725	* 80	8,645	6,520	* 160	6,360	70	--	70	205	80	285	1,930	3,975
1909.....	12,100	13,050	9,275	* 50	9,225	6,910	* 155	6,760	80	--	80	230	105	335	2,050	3,825
1910.....	13,205	13,125	9,295	* 80	9,215	6,910	* 215	6,695	90	--	90	220	135	355	2,075	3,910
1911.....	13,055	12,905	9,020	* 150	8,870	6,680	* 290	6,385	80	--	80	240	140	380	2,020	4,035
1912.....	13,090	12,945	9,330	* 145	9,185	6,900	* 295	6,695	80	--	80	250	150	395	2,015	3,760
1913.....	12,950	12,785	9,170	* 165	9,005	6,835	* 320	6,510	80	--	80	260	155	415	1,995	3,780
1914.....	12,540	12,525	8,565	* 15	8,550	6,290	* 185	6,110	85	--	85	265	170	435	1,925	3,975
1915.....	11,995	12,125	8,020	130	8,150	5,750	* 35	5,715	85	--	85	300	170	465	1,885	3,975
1916.....	12,485	12,650	8,530	165	8,695	6,185	* 10	6,175	90	--	90	325	175	500	1,930	3,955
1917.....	11,980	12,150	7,940	170	8,110	5,570	5	5,575	90	--	90	345	165	515	1,930	4,040
1918.....	11,600	11,780	7,310	180	7,490	4,955	20	4,975	95	--	95	335	160	500	1,920	4,290
1919.....	11,800	11,925	7,725	125	7,850	5,370	* 55	5,315	105	--	105	330	180	510	1,915	4,075
1920.....	11,855	12,050	7,790	195	7,985	5,440	* 55	5,380	80	--	80	375	250	630	1,890	4,065
1921.....	10,850	11,000	6,580	145	6,730	4,505	* 80	4,430	75	--	75	285	225	510	1,720	4,260
1922.....	11,365	11,655	7,605	295	7,895	5,480	* 60	5,420	90	--	90	340	355	695	1,695	3,760
1923.....	11,920	12,260	8,545	340	8,885	6,375	* 75	6,295	115	--	115	350	415	765	1,705	3,375
1924.....	11,640	11,915	8,260	270	8,535	6,140	* 155	5,980	115	--	115	355	425	780	1,655	3,380
1925.....	11,605	11,935	8,380	330	8,710	6,375	* 120	6,255	135	--	135	375	450	825	1,495	3,225
1926.....	11,290	11,665	8,225	370	8,600	6,180	* 145	6,035	145	--	145	415	515	930	1,490	3,065
1927.....	11,005	11,320	7,805	315	8,120	5,790	* 205	5,585	175	(¹⁰)(*)	170	405	520	925	1,435	3,200
1928.....	10,915	11,195	7,690	280	7,970	5,710	* 275	5,435	175	* 5	175	415	555	975	1,385	3,225
1929.....	11,220	11,545	8,050	325	8,375	6,020	* 255	5,765	200	* 5	195	455	585	1,040	1,380	3,170
1930.....	10,135	10,505	6,345	375	6,715	4,560	* 175	4,385	155	* 5	150	430	555	985	1,195	3,790
1931.....	9,015	9,340	4,625	325	4,950	3,105	* 150	2,960	125	* 5	120	420	475	895	970	4,390
1932.....	8,375	8,690	3,295	315	3,710	2,100	* 120	1,980	120	(¹⁰)(*)	115	345	435	785	830	4,980
1933.....	9,050	9,395	4,045	345	4,390	2,665	* 145	2,520	125	* 5	120	425	490	915	835	5,005
1934.....	9,180	9,520	4,355	345	4,695	2,925	* 165	2,760	130	* 5	125	445	510	960	855	4,825
1935.....	9,605	10,230	5,095	425	5,720	3,565	* 135	3,630	145	* 5	140	485	565	1,050	895	4,510
1936.....	10,255	10,610	5,990	560	6,345	4,295	* 95	3,995	165	* 5	160	555	660	1,215	975	4,265
1937.....	10,445	10,680	6,370	610	6,605	4,505	* 115	4,015	195	* 5	195	645	730	1,375	1,020	4,075
1938.....	9,895	10,260	5,570	475	5,935	3,860	* 70	3,680	195	(¹⁰)(*)	195	595	540	1,140	920	4,325
1939.....	10,565	11,100	6,375	535	6,910	4,470	* 60	4,410	210	(¹⁰)(*)	210	730	595	1,325	965	4,190
1940.....	10,865	11,800	6,975	400	7,910	4,845	* 35	5,340	235	* 5	230	935	440	1,375	965	3,890
1941.....	11,645	12,155	8,050	650	8,560	5,680	105	5,630	265	* 5	260	1,075	550	1,645	1,030	3,595
1942.....	10,950	12,700	8,085	720	9,835	5,645	170	6,830	305	* 5	300	1,135	555	1,710	1,000	2,865
1943.....	10,345	11,555	7,560	575	8,770	5,625	85	6,020	280	* 15	265	1,030	505	1,565	920	2,785
1944.....	10,370	11,080	7,455	560	8,165	5,115	100	5,385	270	* 10	260	1,165	470	1,615	905	2,915
1945.....	9,580	10,535	6,605	680	7,560	4,365	100	4,745	250	* 10	240	1,140	590	1,730	845	2,975
1946.....	10,380	10,915	7,705	810	8,240	5,295	90	5,200	255	* 5	250	1,260	720	1,895	890	2,675
1947.....	10,775	11,290	8,090	815	8,605	5,500	* 5	5,260	275	* 5	265	1,375	825	2,135	940	2,685
1948.....	11,030	11,725	8,365	1,080	9,060	5,750	190	5,645	290	(¹⁰)	295	1,475	885	2,275	850	2,665
1949.....	10,160	11,355	7,340	935	8,535	5,000	140	5,345	320	(¹⁰)	320	1,275	790	2,120	745	2,820
1950.....	10,795	12,235	8,525	1,385	9,965	5,905	455	6,330	345	10	350	1,500	925	2,510	770	2,270
1951.....	10,960	11,950	8,730	1,205	9,720	5,780	235	5,985	395	15	410	1,830	955	2,690	730	2,230
1952.....	10,775	11,920	8,750	1,165	9,895	5,820	275	6,140	420	15	435	1,810	875	2,620	700	2,025
1953.....	10,810	11,930	8,740	1,225	9,860	5,710	330	5,915	475	25	500	1,895	870	2,785	660	2,070
1954.....	10,675	12,000	8,670	1,205	9,995	5,650	365	6,070	490	45	530	1,930	795	2,795	600	2,005
1955.....	11,045	12,415	9,205	1,310	10,575	5,785	430	6,230	575	60	640	2,155	820	3,015	690	1,840
1956.....	11,510	12,665	9,680	1,390	10,835	5,920	420	6,205	580	65	645	2,420	905	3,225	760	1,830
1957.....	10,430	11,845	8,690	1,210	10,105	5,100	335	5,680	555	75	625	2,305	800	3,070	730	1,740
1958.....	10,280	11,605	8,575	1,250	9,900	5,160	415	5,600	620	80	700	2,115	755	2,920	680	1,705
1959 ¹¹	11,135	12,555	9,480	1,445	10,900	5,730	515	6,165	755	115	870	2,285	815	3,155	710	1,655
1960 ¹¹	10,770	11,910	9,270	1,310	10,410	5,410	480	5,780	730	95	820	2,450	735	3,130	680	1,500
1961 ¹¹	10,275	11,655	8,850	1,310	10,230	4,980	510	5,520	755	85	840	2,495	715	3,250	620	1,425

¹ Includes all products, except fuelwood, commonly cut from round sections of trees.² Includes small quantities of imported fuelwood.³ Includes cooperage logs, poles and piling, fence posts, hewn ties, round mine timbers, box bolts, excelsior bolts, chemical wood, shingle bolts, and a miscellaneous assortment of similar items.⁴ Columns may not add to total because of rounding.⁵ Net imports of lumber converted to cubic feet roundwood. Small quantities of imported saw logs (roundwood form) are included under domestic production.⁶ Includes changes in stocks beginning in 1935.⁷ Net imports of veneer logs represent the equivalent net imports of veneer and plywood converted to board feet log scale, and then to cubic feet roundwood. The small volume of veneer logs imported (roundwood form) are included under domestic production.⁸ Includes net pulpwood imports (in roundwood form) and the pulpwood equivalent of the net woodpulp and paper and paperboard imports.⁹ Includes changes in stocks beginning in 1941.¹⁰ Less than 2.5 million cubic feet.¹¹ Preliminary estimates.

* Net exports.

Source: Based on data published by the Departments of Commerce and Agriculture and estimates of the Forest Service.

TABLE 3.--Per capita consumption of timber products in the United States, 1900-1961

Year	All timber products ¹	Industrial roundwood								Fuelwood	
		Total ¹	Saw logs		Pulpwood		Veneer logs		Other products		
	Cubic feet	Cubic feet	Cubic feet	Board feet lumber tally	Cubic feet	Cords	Cubic feet	Board feet log scale	Cubic feet	Cubic feet	Cords
1900.....	156.9	93.8	72.3	--	2.2	(²)	0.1	0.4	19.2	63.1	0.8
1901.....	156.2	96.3	74.5	--	2.4	(²)	.1	.5	19.2	59.9	.8
1902.....	155.6	98.7	76.6	--	2.7	(²)	.1	.8	19.3	56.8	.8
1903.....	154.2	100.2	77.6	--	2.9	(²)	.2	1.1	19.5	54.0	.7
1904.....	152.6	101.5	78.7	507	3.0	(²)	.2	1.6	19.5	51.1	.7
1905.....	150.2	101.8	78.8	507	3.1	(²)	.4	2.2	19.6	48.3	.6
1906.....	152.6	106.9	81.7	526	3.5	(²)	.7	3.9	21.1	45.7	.6
1907.....	152.5	108.5	79.7	513	3.9	0.1	.7	4.0	24.3	44.0	.6
1908.....	142.3	97.5	71.7	462	3.2	(²)	.8	4.3	21.8	44.8	.6
1909.....	144.2	101.9	74.7	481	3.7	(²)	.9	4.8	22.7	42.3	.6
1910.....	142.0	99.7	72.5	468	3.8	(²)	1.0	5.2	22.5	42.3	.5
1911.....	137.4	94.5	68.0	438	4.0	.1	.9	4.7	21.5	43.0	.6
1912.....	135.8	96.4	70.3	452	4.1	.1	.8	4.8	21.1	39.5	.5
1913.....	131.5	92.6	67.0	431	4.3	.1	.8	4.9	20.5	38.9	.5
1914.....	126.4	86.3	61.7	397	4.4	.1	.9	5.0	19.4	40.1	.5
1915.....	120.6	81.1	56.9	366	4.6	.1	.8	5.1	18.8	39.6	.5
1916.....	124.1	85.3	60.6	390	4.9	.1	.9	5.2	18.9	38.8	.5
1917.....	117.5	78.4	53.9	347	5.0	.1	.9	5.2	18.7	39.1	.5
1918.....	112.7	71.7	47.6	306	4.8	.1	.9	5.4	18.4	41.1	.5
1919.....	113.5	74.7	50.6	325	4.9	.1	1.0	5.5	18.2	38.8	.5
1920.....	113.1	75.0	50.5	326	5.9	.1	.8	4.6	17.7	38.2	.5
1921.....	101.4	62.0	40.8	263	4.7	.1	.7	3.7	15.9	39.4	.5
1922.....	105.9	71.7	49.2	317	6.3	.1	.8	4.7	15.4	34.2	.5
1923.....	109.6	79.4	56.3	362	6.8	.1	1.0	5.8	15.2	30.2	.4
1924.....	104.4	74.8	52.4	337	6.8	.1	1.0	6.0	14.5	29.6	.4
1925.....	103.1	75.2	54.0	347	7.1	.1	1.2	6.3	12.9	27.8	.4
1926.....	99.4	73.3	51.4	330	7.9	.1	1.2	7.2	12.7	26.1	.3
1927.....	95.1	68.2	46.9	302	7.8	.1	1.4	8.0	12.1	26.9	.4
1928.....	92.9	66.1	45.1	290	8.1	.1	1.5	8.5	11.5	26.8	.4
1929.....	94.8	68.8	47.3	305	8.5	.1	1.6	9.0	11.3	26.0	.3
1930.....	85.3	54.5	35.6	229	8.0	.1	1.2	7.2	9.7	30.8	.4
1931.....	75.3	39.9	23.9	153	7.2	.1	1.0	5.5	7.8	35.4	.5
1932.....	69.6	29.7	15.9	102	6.3	.1	.9	5.5	6.7	39.9	.5
1933.....	74.8	35.0	20.1	130	7.3	.1	1.0	5.4	6.6	39.8	.5
1934.....	75.3	37.1	21.8	141	7.6	.1	1.0	5.8	6.8	38.2	.5
1935.....	80.4	45.0	28.5	183	8.3	.1	1.1	6.3	7.0	35.5	.5
1936.....	82.8	49.5	31.2	201	9.5	.1	1.2	7.4	7.6	33.3	.4
1937.....	82.9	51.3	31.2	201	10.7	.1	1.5	8.5	7.9	31.6	.4
1938.....	79.0	45.7	28.3	182	8.8	.1	1.5	8.9	7.1	33.3	.4
1939.....	84.8	52.8	33.7	217	10.1	.1	1.6	9.1	7.4	32.0	.4
1940.....	89.3	59.9	40.4	260	10.4	.1	1.7	10.2	7.3	29.4	.4
1941.....	91.1	64.2	42.2	271	12.3	.2	1.9	11.5	7.7	26.9	.4
1942.....	94.1	72.9	50.6	325	12.7	.2	2.2	12.6	7.4	21.2	.3
1943.....	84.5	64.1	44.0	284	11.4	.1	1.9	11.1	6.7	20.4	.3
1944.....	80.1	59.0	38.9	250	11.7	.2	1.9	10.6	6.5	21.1	.3
1945.....	75.3	54.0	33.9	219	12.4	.2	1.7	9.7	6.0	21.3	.3
1946.....	77.2	58.3	36.8	237	13.4	.2	1.8	10.4	6.3	18.9	.3
1947.....	78.3	59.7	36.5	235	14.8	.2	1.8	10.6	6.5	18.6	.2
1948.....	80.0	61.8	38.5	248	15.5	.2	2.0	11.8	5.8	18.2	.2
1949.....	76.1	57.2	35.8	231	14.2	.2	2.1	12.6	5.0	18.9	.3
1950.....	80.7	65.7	41.7	268	16.5	.2	2.3	13.7	5.1	15.0	.2
1951.....	77.4	62.9	38.2	245	17.4	.2	2.7	15.1	4.7	14.4	.2
1952.....	75.9	63.0	39.1	252	16.7	.2	2.8	16.1	4.5	12.9	.2
1953.....	74.7	61.8	37.1	239	17.4	.2	3.1	18.5	4.1	13.0	.2
1954.....	73.9	61.5	37.4	241	17.2	.2	3.3	19.2	3.7	12.3	.2
1955.....	75.1	64.0	37.7	244	18.2	.2	3.9	22.7	4.2	11.1	.1
1956.....	75.3	64.4	36.9	238	19.2	.3	3.8	22.6	4.5	10.9	.1
1957.....	69.2	59.0	33.2	214	17.9	.2	3.7	21.6	4.3	10.2	.1
1958.....	66.7	56.9	32.2	208	16.8	.2	4.0	24.0	3.9	9.8	.1
1959 ³	70.8	61.5	34.8	225	17.8	.2	4.9	29.0	4.0	9.3	.1
1960 ³	65.9	57.6	32.0	206	17.3	.2	4.5	27.1	3.8	8.3	.1
1961 ³	63.4	55.7	30.0	193	17.7	.2	4.6	27.5	3.4	7.8	.1

¹ Data may not add to totals because of rounding.² Less than one tenth of a cord.³ Preliminary estimates.

Source: Based on data published by the Departments of Commerce and Agriculture and estimates of the Forest Service.

TABLE 4. --Stumpage prices for selected species, 1910-1961

(Dollars per thousand board feet)

Year and quarter	Douglas-fir ¹	Southern pine ²	Sugar pine ³	Ponderosa pine ³
1910.....	2.20	1.50	4.30	3.60
1911.....	2.30	2.80	2.50	2.50
1912.....	2.30	1.50	3.50	2.70
1913.....	1.70	1.70	3.30	2.20
1914.....	1.60	2.90	3.00	2.00
1915.....	2.90	2.10	3.40	2.50
1916.....	1.20	3.20	3.50	2.90
1917.....	1.60	3.40	2.80	2.20
1918.....	1.80	3.00	3.40	2.70
1919.....	2.40	3.70	3.40	3.00
1920.....	1.80	4.40	5.00	3.70
1921.....	1.90	3.70	4.20	3.20
1922.....	2.50	2.80	3.80	4.00
1923.....	2.50	3.00	4.40	3.90
1924.....	2.20	3.50	4.20	3.50
1925.....	2.10	3.20	4.40	3.60
1926.....	2.20	3.60	4.50	3.70
1927.....	2.50	3.50	4.00	3.40
1928.....	2.90	3.60	3.20	2.50
1929.....	2.70	3.50	4.60	3.60
1930.....	3.30	3.20	6.30	3.60
1931.....	2.90	3.40	4.60	4.20
1932.....	1.70	2.80	3.70	2.60
1933.....	1.20	2.70	--	--
1934.....	1.50	2.90	3.50	2.50
1935.....	1.70	4.50	3.10	2.40
1936.....	2.10	--	2.80	2.20
1937.....	1.60	5.30	2.80	2.20
1938.....	2.50	7.30	3.50	2.50
1939.....	--	5.80	3.10	2.40
1940.....	2.30	4.50	3.00	2.20
1941.....	3.60	10.80	3.40	2.60
1942.....	--	8.90	4.80	2.70
1943.....	--	8.70	4.20	5.00
1944.....	5.20	10.90	5.20	4.00
1945.....	5.00	9.30	7.30	5.60
1946.....	6.60	8.90	7.20	5.80
1947.....	9.90	10.90	12.50	8.30
1948.....	19.90	16.40	16.20	14.60
1949.....	11.10	19.70	18.90	17.60
1950.....	16.40	26.70	25.00	18.30
1951.....	25.40	34.60	40.40	33.60
1952.....	25.80	38.50	36.40	27.40
1953.....	20.20	34.20	30.20	25.90
1954.....	16.20	29.70	31.20	27.20
1955.....	28.90	32.00	30.00	26.10
1956.....	37.70	37.40	34.90	27.20
1957.....	26.20	31.50	30.00	24.20
1958.....	21.80	31.10	23.50	19.10
1959.....	36.80	35.20	26.70	20.60
1960.....	32.00	34.50	29.00	19.10
First quarter.....	37.10	36.70	36.60	22.70
Second quarter.....	32.30	35.60	25.50	21.60
Third quarter.....	33.80	32.90	29.90	16.50
Fourth quarter.....	26.80	29.10	22.80	14.80
1961.....				
First quarter.....	26.60	27.90	23.40	11.60
Second quarter.....	28.60	26.80	16.80	14.00

¹ 1910-31 national-forest timber sales, all species Washington and Oregon; 1932-41 all species western Washington and western Oregon; 1944-56, national-forest and Bureau of Land Management sales Douglas-fir only in western Washington and western Oregon; 1957-61 national-forest sales, Douglas-fir only in western Washington and western Oregon. All U. S. Forest Service national-forest prices in this table are the bid prices for timber sold on a Scribner C log scale basis, including Knutsen-Vandenberg Act deposits for stand improvement but excluding cooperative deposits and slash-disposal payments.

² 1910-34 stumpage prices of privately owned second-growth southern pine timber; 1935-49 national-forest timber sales all species; 1950-61 national-forest timber sales pine only.

³ 1910-61 national-forest timber sales, California.

TABLE 5. --Stumpage prices for sawtimber sold from national forests, by selected species and region, 1960¹

Species and region ²	Volume ³	Value ⁴	Average price per M bd. ft.	Species and region ²	Volume ³	Value ⁴	Average price per M bd. ft.
	<i>Thousand board feet</i>	<i>Dollars</i>	<i>Dollars</i>		<i>Thousand board feet</i>	<i>Dollars</i>	<i>Dollars</i>
Douglas-fir (West side):				True fir:			
California ⁵	200,521	3,174,319	15.83	Northern Rocky Mtn.....	137,329	382,530	2.79
Pacific Northwest.....	1,727,714	55,348,628	32.04	Rocky Mountain.....	7,990	35,188	4.40
Total.....	1,928,235	58,522,947	30.35	Southwest.....	45,557	104,654	2.30
Douglas-fir (East side):				Intermountain.....	40,986	197,775	4.83
Northern Rocky Mtn.....	219,169	1,407,305	6.42	California.....	335,992	1,897,649	5.65
Rocky Mountain.....	4,237	39,135	9.24	Pacific Northwest ⁶	365,467	3,887,124	10.64
Southwest.....	86,099	288,349	3.35	Total.....	933,321	6,504,920	6.97
Intermountain.....	107,662	571,773	5.31	Southern pine:			
California.....	223,958	3,104,193	13.86	Northeast.....	9,084	181,360	19.96
Pacific Northwest.....	222,945	2,292,073	10.28	South.....	387,105	13,367,489	34.53
Total.....	864,070	7,702,828	8.91	Lake and Central.....	2,512	48,460	19.29
Ponderosa pine:				Total.....	398,701	13,597,309	34.10
Northern Rocky Mtn.	65,835	1,222,744	18.57	Red or eastern white			
Rocky Mountain.....	65,297	802,409	12.29	pine:			
Southwest.....	362,978	3,807,752	10.49	Northeast.....	2,137	41,166	19.26
Intermountain.....	99,799	1,514,991	15.18	South.....	4,626	115,515	24.97
California.....	396,574	7,564,757	19.08	Lake and Central.....	8,857	199,591	22.53
Pacific Northwest.....	480,900	11,475,867	23.86	Total.....	15,620	356,272	22.81
Total.....	1,471,383	26,388,520	17.93	Jack pine:			
Sugar or western				Lake and Central.....	1,069	18,807	17.59
white pine:				Eastern hemlock:			
Northern Rocky Mtn.....	144,128	2,185,707	15.17	Northeast.....	6,745	106,145	15.74
California.....	135,488	3,924,819	28.97	South.....	1,735	25,456	14.67
Pacific Northwest.....	48,813	1,092,801	22.39	Lake and Central.....	1,778	18,515	10.41
Total.....	328,429	7,203,327	21.93	Total.....	10,258	150,116	14.63
Lodgepole pine:				White oak:			
Northern Rocky Mtn.....	119,330	422,151	3.54	Northeast.....	3,161	59,160	18.72
Rocky Mountain.....	61,967	380,216	6.14	South.....	5,653	168,609	29.83
Intermountain.....	331,919	2,430,149	7.32	Lake and Central.....	1,604	37,083	23.12
California.....	11,906	36,650	3.08	Total.....	10,418	264,852	25.42
Pacific Northwest.....	4,266	38,538	9.03	Red oak:			
Total.....	529,388	3,307,704	6.25	Northeast.....	6,193	139,719	22.56
Western hemlock:				South.....	7,843	334,943	42.71
Northern Rocky Mtn.....	20,804	43,674	2.10	Lake and Central.....	14,835	178,084	12.00
California.....	410	1,548	3.78	Total.....	28,871	652,746	22.61
Pacific Northwest.....	789,767	8,309,649	10.52	Yellow birch:			
Alaska.....	231,384	543,351	2.35	Northeast.....	5,724	275,805	48.18
Total.....	1,042,365	8,898,222	8.54	Lake and Central.....	3,129	209,322	66.90
Cedar:				Total.....	8,853	485,127	54.80
Northern Rocky Mtn.....	45,802	167,362	3.65	Maple:			
California.....	76,763	429,074	5.59	Northeast.....	8,996	368,922	41.01
Pacific Northwest.....	97,586	1,423,775	14.59	Lake and Central.....	8,813	253,775	28.80
Total.....	220,151	2,020,211	9.18	Total.....	17,809	622,697	34.97
Larch:				Yellow-poplar, basswood			
Northern Rocky Mtn.....	205,385	1,477,595	7.19	or cucumber:			
Pacific Northwest.....	35,002	216,340	6.18	Northeast.....	5,552	154,319	27.80
Total.....	240,387	1,693,935	7.05	South.....	4,698	180,823	38.49
Redwood:				Lake and Central.....	1,424	44,917	31.54
California.....	10,198	177,969	17.45	Total.....	11,674	380,059	32.56
Spruce:				Not specified by species....	196,988	2,971,900	15.09
Northern Rocky Mtn.....	145,094	949,619	6.54	All species and regions....	8,656,972	144,132,893	16.65
Rocky Mountain.....	73,726	403,755	5.48				
Southwest.....	13,930	67,786	4.87				
Intermountain.....	26,270	156,527	5.96				
Pacific Northwest.....	27,868	166,177	5.96				
Alaska.....	101,896	468,561	4.60				
Total.....	388,784	2,212,425	5.69				

¹ Excludes pulpwood and miscellaneous products; also excludes timber sold by land exchanges and from land utilization project lands.² Administrative regions of the Forest Service.³ Scribner Decimal C log rule, except in Northeast Region where International 1/4-inch log rule is used.⁴ Includes bid price plus KV payments.⁵ Includes Klamath and Six Rivers National Forests in northwest California.⁶ Includes 50,892 thousand board feet of noble fir @ 15.92 per M.

NOTE: The stumpage prices shown in this table do not necessarily indicate values for any specific tract of public or private timber. Prices received for individual tracts may vary widely because of differences in timber quality, degree of competition, timber accessibility, variations in special costs, methods of allocating overhead costs by species, or other factors.

Source: Forest service, U. S. Department of Agriculture (25).

TABLE 6.--Lumber production, imports, exports, and consumption in the United States, for selected years 1899-1961

Year	Domestic production	Imports	Exports	Stock changes	Apparent consumption	Per capita consumption
	<i>Billion board feet</i>	<i>Billion board feet</i>	<i>Billion board feet</i>	<i>Billion board feet</i>	<i>Billion board feet</i>	<i>Board feet</i>
1899.....	35.1	0.7	1.5	--	34.3	458
1905.....	43.5	.8	1.8	--	42.5	507
1910.....	44.5	1.0	2.3	--	43.2	468
1915.....	37.0	1.1	1.3	--	36.8	366
1920.....	35.0	1.4	1.7	--	34.7	326
1925.....	41.0	1.8	2.6	--	40.2	347
1930.....	29.4	1.2	2.4	--	28.2	229
1931.....	20.0	.7	1.7	--	19.0	153
1932.....	13.5	.4	1.2	--	12.7	102
1933.....	17.2	.4	1.3	--	16.3	130
1934.....	18.8	.3	1.3	--	17.8	141
1935.....	22.9	.4	1.3	-1.3	23.3	183
1936.....	27.6	.7	1.3	1.3	25.7	201
1937.....	29.0	.7	1.4	2.4	25.9	201
1938.....	24.8	.5	1.0	.7	23.6	182
1939.....	28.8	.7	1.1	--	28.4	217
1940.....	31.2	.7	1.0	-3.4	34.3	260
1941.....	36.5	1.4	.7	1.0	36.2	271
1942.....	36.3	1.5	.5	-6.5	43.8	325
1943.....	34.3	.9	.3	-3.9	38.8	284
1944.....	32.9	1.0	.4	-1.1	34.6	250
1945.....	28.1	1.1	.4	-1.8	30.6	219
1946.....	34.1	1.2	.6	1.2	33.5	237
1947.....	35.4	1.3	1.4	1.5	33.8	235
1948.....	37.0	1.9	.6	1.9	36.4	248
1949.....	32.2	1.6	.7	-1.3	34.4	231
1950.....	38.0	3.4	.5	.2	40.7	268
1951.....	37.2	2.5	1.0	.8	37.9	245
1952.....	37.5	2.5	.7	-.3	39.6	252
1953.....	36.7	2.8	.6	.8	38.1	239
1954.....	36.4	3.1	.7	-.4	39.2	241
1955.....	37.4	3.6	.8	-.1	40.3	244
1956.....	38.2	3.4	.8	.8	40.0	238
1957.....	32.9	3.0	.8	-1.6	36.7	214
1958.....	33.4	3.4	.7	-.2	36.3	208
1959.....	37.1	4.1	.8	.5	39.9	225
1960 ¹	35.0	3.9	.9	.7	37.3	206
1961 ¹	32.0	4.0	.7	-.2	35.5	193

¹ Preliminary estimates.

Source: Bureau of the Census, U.S. Department of Commerce (31); Forest Service, U.S. Department of Agriculture.

Note: Estimates of lumber production from 1960-61 are based on data published by the National Lumber Manufacturers Association (12).

TABLE 7.--Estimated lumber production in the United States, by regions and by hardwoods and softwoods, selected years 1899-1961¹
(Billion board feet)

Year	All regions			North			South			West, total ²
	Total	Hardwoods	Softwoods	Total	Hardwoods	Softwoods	Total	Hardwoods	Softwoods	
1899.....	35.1	8.9	26.2	18.6	6.6	12.0	12.9	2.3	10.7	3.5
1905.....	43.5	10.5	33.0	20.1	7.3	12.8	16.5	3.3	13.3	6.9
1910.....	44.5	10.5	34.0	15.6	7.5	8.0	20.0	2.9	17.1	8.9
1915.....	37.0	7.5	29.5	10.0	4.7	5.3	18.8	2.8	16.0	8.2
1920.....	35.0	7.4	27.6	6.9	3.8	3.0	16.0	3.5	12.5	12.1
1925.....	41.0	7.7	33.3	6.0	3.6	2.5	19.6	4.1	15.5	15.3
1930.....	29.4	6.1	23.2	4.5	2.9	1.6	12.6	3.2	9.4	12.2
1935.....	22.9	4.7	18.2	3.8	2.4	1.5	10.0	2.3	7.7	9.1
1940.....	31.2	5.5	25.6	4.6	2.9	1.7	13.3	2.6	10.7	13.2
1941.....	36.5	6.7	29.9	5.3	3.3	2.0	15.5	3.3	12.2	15.7
1942.....	36.3	6.8	29.5	5.1	3.2	2.0	15.6	3.6	12.0	15.6
1943.....	34.3	7.4	26.9	4.9	3.2	1.7	14.3	4.2	10.2	15.0
1944.....	32.9	7.8	25.2	5.4	3.5	1.9	12.6	4.3	8.3	15.0
1945.....	28.1	7.0	21.1	4.5	2.8	1.7	11.5	4.1	7.4	12.1
1946.....	34.1	8.3	25.9	4.9	3.1	1.9	14.7	5.1	9.6	14.4
1947.....	35.4	7.4	28.0	5.4	3.4	2.0	13.6	4.0	9.6	16.3
1948.....	37.0	7.4	29.6	6.0	3.4	2.6	13.2	4.0	9.2	17.8
1949.....	32.2	5.7	26.5	4.1	2.6	1.5	11.6	3.1	8.5	16.5
1950.....	38.0	7.4	30.6	4.9	3.0	2.0	14.6	4.4	10.2	18.6
1951.....	37.2	7.7	29.5	5.0	3.3	1.7	13.3	4.4	8.9	18.9
1952.....	37.5	7.2	30.3	4.1	2.7	1.4	13.7	4.5	9.2	19.7
1953.....	36.7	7.2	29.5	5.0	3.5	1.5	11.8	3.7	8.1	19.9
1954.....	36.4	7.1	29.3	4.6	3.0	1.7	11.7	4.1	7.7	20.0
1955.....	37.4	7.6	29.8	4.5	3.0	1.5	12.2	4.5	7.7	20.7
1956.....	38.2	8.0	30.2	5.1	3.4	1.6	12.7	4.5	8.2	20.5
1957.....	32.9	5.8	27.1	4.1	2.2	1.8	10.3	3.5	6.7	18.6
1958.....	33.4	6.0	27.4	3.9	2.5	1.4	9.8	3.4	6.4	19.7
1959.....	37.1	6.4	30.7	4.2	2.7	1.5	10.9	3.7	7.2	22.0
1960 ³	35.0	6.1	28.9	4.0	2.6	1.4	10.3	3.5	6.8	20.7
1961 ³	32.0	4.7	27.3	3.3	2.0	1.3	9.5	2.7	6.8	19.2

¹ Data may not add to total because of rounding.

² Practically all softwoods.

³ Preliminary estimates.

Source: Bureau of the Census, U. S. Department of Commerce (31); Forest Service, U. S. Department of Agriculture.

Note: Estimates for 1960-61 are based on data published by the National Lumber Manufacturers Association (12).

TABLE 8.--Wholesale price indexes for lumber, all commodities and selected construction materials, 1929-1961

(1947-49 = 100)

Year and month	All commodities	Lumber		Structural steel		Paperboard		Structural clay products ¹		Construction materials		Plywood	
		Actual	Relative ²	Actual	Relative ²	Actual	Relative ²	Actual	Relative ²	Actual	Relative ²	Actual	Relative ²
1929.....	61.9	31.2	50.4	61.6	99.5	44.5	71.9	61.8	99.8	49.7	80.3	--	--
1930.....	56.1	28.5	50.8	54.8	97.7	37.3	66.5	58.8	104.8	46.8	83.4	--	--
1931.....	47.4	23.1	48.7	52.2	110.1	31.6	66.7	54.8	115.6	41.2	86.9	--	--
1932.....	42.1	19.4	46.1	50.8	120.7	31.4	74.6	50.6	120.2	37.2	88.4	--	--
1933.....	42.8	23.5	54.9	52.2	122.0	41.2	96.3	51.9	121.3	40.1	93.7	--	--
1934.....	48.7	28.1	57.7	57.0	117.0	47.4	97.3	59.1	121.4	44.9	92.2	--	--
1935.....	52.0	27.2	52.3	57.8	111.2	41.4	79.6	58.6	112.7	44.4	85.4	--	--
1936.....	52.5	28.9	55.0	59.7	113.7	41.5	79.0	58.1	110.7	45.1	85.9	--	--
1937.....	56.1	33.1	59.0	71.1	126.7	48.9	87.2	61.2	109.1	49.6	88.4	--	--
1938.....	51.1	29.0	56.8	69.7	136.4	41.4	81.0	59.6	116.6	47.0	92.0	--	--
1939.....	50.1	31.0	61.9	67.4	134.5	42.5	84.8	59.9	119.6	47.1	94.0	--	--
1940.....	51.1	34.2	66.9	67.4	131.9	48.6	95.1	59.3	116.0	49.4	96.7	--	--
1941.....	56.8	40.7	71.7	67.4	118.7	54.7	96.3	61.4	108.1	53.7	94.5	--	--
1942.....	64.2	44.2	68.8	67.4	105.0	56.3	87.7	64.2	100.0	57.4	89.4	--	--
1943.....	67.0	47.0	70.1	67.4	100.6	60.6	90.4	64.9	96.9	58.0	86.6	--	--
1944.....	67.6	50.9	75.3	67.4	99.7	62.0	91.7	66.6	98.5	60.1	88.9	--	--
1945.....	68.8	51.5	74.9	67.4	98.0	64.6	93.9	73.6	107.0	61.3	89.1	--	--
1946.....	78.7	59.3	75.3	74.4	94.5	71.2	90.5	80.5	102.3	69.1	87.8	--	--
1947.....	96.4	94.5	98.0	84.5	87.7	102.9	91.7	95.1	94.0	97.5	95.9	99.5	99.5
1948.....	104.4	107.3	102.8	102.8	98.5	102.0	97.7	102.4	98.1	104.4	100.0	109.0	104.4
1949.....	99.2	98.2	99.0	112.6	113.5	98.8	99.6	105.9	106.8	102.0	102.8	95.2	96.0
1950.....	103.1	114.5	111.1	121.0	117.4	105.0	101.8	110.2	106.9	109.5	106.2	106.5	103.3
1951.....	114.8	123.6	107.7	128.4	111.8	131.8	114.8	117.8	102.6	119.6	104.2	115.1	100.3
1952.....	111.6	120.5	108.0	131.1	117.5	127.4	114.2	122.0	109.3	118.2	105.9	105.0	94.1
1953.....	110.1	119.3	108.4	138.2	125.5	124.3	112.9	128.1	116.3	119.9	108.9	109.3	99.3
1954.....	110.3	117.3	106.3	143.8	130.4	124.5	112.9	133.1	120.7	120.2	109.0	103.1	93.5
1955.....	110.7	124.4	112.4	151.9	137.2	127.1	114.8	140.1	126.6	125.5	113.4	105.4	95.2
1956.....	114.3	127.2	111.3	162.9	142.5	134.8	117.9	148.0	129.5	130.6	114.3	101.7	89.0
1957.....	117.6	119.7	101.8	187.5	159.4	136.3	115.9	154.0	131.0	130.6	111.1	96.4	82.0
1958.....	119.2	118.0	99.0	196.0	164.4	136.2	114.3	156.5	131.3	130.5	109.5	97.1	81.5
1959 ³	119.5	127.1	106.4	199.6	167.0	136.1	113.9	160.2	134.1	134.6	112.6	101.2	84.7
January.....	119.5	121.0	101.3	199.6	167.0	136.2	114.0	159.3	133.3	132.4	110.8	99.7	83.4
February.....	119.5	123.1	103.0	199.6	167.0	136.2	114.0	159.6	133.6	133.3	111.5	103.6	86.7
March.....	119.6	125.5	104.9	199.6	166.9	136.2	113.9	159.9	133.7	133.8	111.9	104.0	87.0
April.....	120.0	126.8	105.7	199.6	166.3	136.2	113.5	160.0	133.3	134.7	112.3	106.6	88.8
May.....	119.9	128.9	107.5	199.6	166.5	136.2	113.6	160.1	133.5	135.8	113.3	106.6	88.9
June.....	119.7	130.4	108.9	199.6	166.8	136.2	113.8	160.4	134.0	135.8	113.5	105.2	87.9
July.....	119.5	129.9	108.7	199.6	167.0	135.9	113.7	160.6	134.4	135.3	113.2	102.4	85.7
August.....	119.1	130.3	109.4	199.6	167.6	135.9	114.1	160.5	134.8	135.4	113.7	100.9	84.7
September.....	119.7	129.3	108.0	199.6	166.8	135.9	113.5	160.5	134.1	135.0	112.8	96.6	80.7
October.....	119.1	127.9	107.4	199.6	167.6	135.9	114.1	160.4	134.7	135.0	113.4	96.5	81.0
November.....	118.9	125.8	105.8	199.6	167.9	135.9	114.3	160.6	135.1	134.6	113.2	94.5	79.5
December.....	118.9	125.9	105.9	199.6	167.9	135.9	114.3	160.7	135.2	134.9	113.5	97.2	81.7
1960: ³	119.6	121.4	101.5	199.6	166.9	135.3	113.1	161.8	135.3	132.6	110.9	96.1	80.4
January.....	119.3	126.1	105.7	199.6	167.3	135.9	113.9	161.3	135.2	135.2	113.3	98.2	82.3
February.....	119.3	126.1	105.7	199.6	167.3	135.9	113.9	161.5	135.4	135.0	113.2	97.0	81.3
March.....	120.0	125.9	104.9	199.6	166.3	135.9	113.3	161.5	134.6	134.5	112.1	95.9	79.9
April.....	120.0	125.7	104.8	199.6	166.3	135.9	113.3	161.5	134.6	134.3	111.9	96.1	80.1
May.....	119.7	124.9	104.3	199.6	166.8	135.9	113.5	161.7	135.1	133.9	111.9	95.7	79.9
June.....	119.5	123.1	103.0	199.6	167.0	135.9	113.7	161.7	135.3	132.9	111.2	95.5	79.9
July.....	119.7	121.6	101.6	199.6	166.8	135.9	113.5	161.8	135.2	132.1	110.4	95.5	79.8
August.....	119.2	119.2	100.0	199.6	167.4	135.9	114.0	162.0	135.9	131.4	110.2	94.7	79.4
September.....	119.2	117.9	98.9	199.6	167.4	135.9	114.0	162.1	136.0	131.1	110.0	96.4	80.9
October.....	119.6	116.3	97.2	199.6	166.9	135.9	113.6	162.2	135.6	130.5	109.1	97.1	81.2
November.....	119.6	115.1	96.2	199.6	166.9	132.4	110.7	162.3	135.7	130.3	108.9	96.1	80.4
December.....	119.5	115.0	96.2	199.6	167.0	132.4	110.8	162.3	135.8	130.0	108.8	95.1	79.6
1961:.....	119.9	114.5	95.5	199.6	166.5	132.4	110.4	162.1	135.2	130.1	108.5	91.7	76.5
January.....	120.0	113.5	94.6	199.6	166.3	130.1	108.4	162.1	135.1	129.8	108.2	90.8	75.7
February.....	119.9	114.4	95.4	199.6	166.5	129.9	108.3	162.1	135.2	129.9	108.3	92.0	76.7
March.....	119.4	116.5	97.6	199.6	167.2	129.1	108.1	162.1	135.8	130.7	109.5	99.1	83.0
April.....	118.7	117.0	98.6	199.6	168.2	128.9	108.6	161.5	136.1	130.6	110.0	97.2	81.9
May.....	118.2	117.0	99.0	199.6	168.9	128.9	109.1	161.6	136.7	130.5	110.4	97.2	82.2
June.....	118.6	116.8	98.5	199.6	168.3	123.0	103.7	161.0	136.3	130.5	110.0	97.2	82.0

¹ Formerly listed as "Brick and tile" by the U.S. Department of Labor.² Obtained by dividing the actual price index by the all commodity price index.³ 1959 and 1960 yearly averages are preliminary.

Source: Bureau of Labor Statistics, U.S. Department of Labor (44).

TABLE 9. --Estimated pulpwood production in the United States, by regions and by hardwoods and softwoods, selected years 1899-1961¹
(Million cords)

Year	All regions			North			South			West		
	Total	Hardwoods	Softwoods	Total	Hardwoods	Softwoods	Total	Hardwoods	Softwoods	Total	Hardwoods	Softwoods ²
1899.....	1.6	0.5	1.2	1.4	0.5	1.0	--	--	--	0.2	--	0.2
1905.....	2.5	.4	2.1	2.5	.4	2.1	0.1	--	0.1	--	--	--
1910.....	3.1	.8	2.3	2.8	.7	2.1	.3	--	.1	.1	--	.1
1916.....	4.4	.7	3.7	4.2	.6	3.6	.2	0.1	.1	--	--	--
1920.....	5.0	.8	4.3	4.5	.5	4.0	.4	.3	.1	.2	--	.2
1925.....	5.0	.7	4.3	4.1	.4	3.7	.6	.3	.3	.3	--	.3
1930.....	6.1	.8	5.3	3.9	.4	3.5	1.0	.4	.5	1.2	--	1.2
1935.....	6.6	.9	5.7	2.9	.3	2.6	1.4	.6	.9	2.2	--	2.2
1941.....	14.2	1.8	12.3	4.4	1.1	3.3	7.2	.7	6.4	2.6	--	2.6
1942.....	14.9	1.9	13.0	5.0	1.2	3.8	7.3	.7	6.6	2.6	--	2.6
1943.....	13.6	1.8	11.8	4.0	1.1	2.9	7.1	.7	6.5	2.5	--	2.5
1944.....	15.3	2.0	13.4	4.6	1.0	3.5	8.2	1.0	7.2	2.6	--	2.6
1945.....	15.3	2.2	13.1	4.7	1.1	3.6	8.1	1.1	7.0	2.5	--	2.5
1946.....	17.0	2.6	14.4	5.6	1.4	4.2	8.8	1.2	7.6	2.6	--	2.6
1947.....	18.5	2.5	16.0	5.6	1.3	4.3	9.3	1.2	8.1	3.6	--	3.6
1948.....	20.0	2.5	17.5	5.4	1.2	4.2	11.4	1.3	10.1	3.3	--	3.3
1949.....	17.6	2.3	15.3	4.6	1.3	3.3	9.9	1.0	8.9	3.1	--	3.1
1950.....	20.7	2.9	17.8	5.0	1.7	3.3	12.4	1.2	11.2	3.3	--	3.3
1951.....	25.1	3.8	21.3	6.3	2.2	4.1	14.1	1.6	12.5	4.7	--	4.7
1952.....	25.1	3.7	21.4	6.0	1.9	4.1	14.6	1.8	12.8	4.5	--	4.5
1953.....	26.3	4.2	22.1	5.4	2.2	3.2	16.2	2.0	14.2	4.7	--	4.7
1954.....	27.0	4.8	22.2	5.5	2.6	2.9	16.4	2.2	14.2	5.1	--	5.1
1955.....	30.9	5.3	25.6	6.5	2.6	3.9	18.4	2.6	15.7	6.0	0.1	5.9
1956.....	35.2	6.1	29.1	7.4	3.0	4.4	20.3	2.9	17.4	7.5	.2	7.3
1957.....	34.4	6.2	28.2	7.3	3.0	4.3	19.8	3.0	16.8	7.4	.2	7.2
1958.....	33.2	5.9	27.3	6.2	2.6	3.6	20.2	3.1	17.1	6.8	.2	6.6
1959.....	36.7	7.6	29.1	6.6	3.3	3.3	22.8	4.0	18.7	7.4	.3	7.1
1960.....	40.0	8.5	31.5	7.9	3.7	4.2	23.6	4.5	19.1	8.5	.3	8.2
1961 ³	40.5	8.6	31.9	8.0	3.8	4.3	23.9	4.6	19.2	8.6	.3	8.3

¹ Data may not add to totals because of rounding.

² Prior to 1956, these figures include small volumes of hardwoods.

³ Preliminary estimates.

Source: Bureau of the Census, U.S. Department of Commerce (32); Forest Service, U.S. Department of Agriculture (24).

TABLE 10. --Pulpwood consumption in the United States by source of wood, selected years 1909-1961

(Thousand cords)

Year	Total consumption ¹	Domestic production			Net imports
		Total	Roundwood	Residues	
1909.....	4,002	3,208	2,959	249	794
1910.....	4,094	3,147	2,884	263	948
1911.....	4,328	3,390	3,109	281	938
1914.....	4,471	3,641	3,387	254	830
1916.....	5,229	4,445	4,244	201	784
1917.....	5,480	4,706	4,472	234	774
1918.....	5,251	4,506	4,351	155	745
1919.....	5,478	4,446	4,271	175	1,032
1920.....	6,114	5,015	4,845	170	1,100
1921.....	4,557	3,740	3,673	67	817
1922.....	5,549	4,499	4,411	88	1,050
1923.....	5,873	4,637	4,533	104	1,236
1924.....	5,768	4,720	4,601	119	1,048
1925.....	6,094	5,005	4,849	156	1,088
1926.....	6,766	5,490	5,309	181	1,277
1927.....	6,751	5,527	5,241	286	1,224
1928.....	7,160	5,795	5,339	456	1,366
1929.....	7,645	6,412	5,851	561	1,233
1930.....	7,196	6,099	5,503	596	1,096
1931.....	6,723	5,985	5,427	558	738
1932.....	5,633	4,891	4,450	441	742
1933.....	6,582	5,964	5,484	480	618
1934.....	6,797	5,980	5,744	236	817
1935.....	7,628	6,591	6,298	293	1,037
1936.....	8,716	7,527	7,197	330	1,189
1937.....	10,394	8,895	8,330	565	1,499
1938.....	9,194	7,953	7,722	231	1,241
1939.....	10,816	9,735	9,416	319	1,081
1940.....	13,743	12,369	12,094	275	1,374
1941.....	16,579	14,176	13,951	225	2,208
1942.....	17,275	14,902	14,702	200	2,158
1943.....	15,645	13,580	13,391	189	1,676
1944.....	16,758	15,349	15,062	287	1,630
1945.....	16,913	15,253	14,803	450	1,688
1946.....	17,818	16,982	16,382	600	1,942
1947.....	19,714	18,542	17,792	750	1,998
1948.....	21,189	20,026	19,101	925	2,268
1949.....	19,945	17,619	16,544	1,075	1,639
1950.....	23,627	20,712	19,462	1,250	1,807
1951.....	26,522	25,128	23,728	1,400	2,637
1952.....	26,476	25,065	23,497	1,568	2,293
1953.....	28,140	26,319	24,594	1,725	1,537
1954.....	29,436	26,972	25,072	1,900	1,583
1955.....	33,356	30,948	28,273	2,675	1,869
1956.....	35,749	35,196	31,696	3,500	1,880
1957.....	35,746	34,422	30,145	4,277	1,759
1958.....	35,248	33,239	27,818	5,421	1,331
1959 ²	38,691	36,716	30,076	6,640	1,227
1960 ²	40,485	40,012	32,163	7,849	1,197
1961 ²	42,150	40,500	32,400	8,100	1,150

¹ Includes changes in stocks beginning in 1941.² Preliminary estimates.

Source: U.S. Department of Commerce (32, 40); Forest Service, U.S. Department of Agriculture; and American Pulpwood Association.

TABLE 11.--Pulpwood prices at local delivery points, 1940-1961

(Dollars per standard cord, including bark)

Year	Southern pine	Spruce	Aspen
1940.....	4.20	9.00	4.25
1941.....	4.60	10.50	4.75
1942.....	6.00	12.25	6.90
1943.....	7.20	14.75	8.75
1944.....	8.20	15.00	9.00
1945.....	8.40	15.00	9.60
1946.....	10.10	16.50	10.00
1947.....	11.00	23.75	11.50
1948.....	11.70	22.25	12.00
1949.....	11.00	18.50	9.25
1950.....	11.90	19.50	9.50
1951.....	13.80	22.50	10.50
1952.....	13.90	25.00	12.25
1953.....	13.90	23.25	12.00
1954.....	14.00	24.25	12.50
1955.....	14.40	24.75	11.50
1956.....	15.40	26.00	12.25
1957.....	15.50	26.00	11.75
1958.....	15.60	26.25	12.00
1959.....	16.00	26.25	11.50
1960.....	16.50	26.75	12.00
1961 ¹	16.50	27.25	13.00

¹ Preliminary estimates.

Source: Southern pine, Forest Service, U.S. Department of Agriculture; spruce and aspen, University of Wisconsin, Extension Forestry Office (50).

TABLE 12. --Production¹ of veneer logs and bolts in the United States, selected years, 1905-1961

(Million board feet, log scale)

Year	All species	Softwoods	Hardwoods
1905.....	181	13	168
1906.....	329	52	277
1907.....	349	39	310
1908.....	383	51	332
1909.....	436	56	380
1910.....	477	49	428
1911.....	445	51	394
1919.....	577	93	484
1921.....	400	70	330
1923.....	646	151	495
1925.....	735	194	541
1927.....	962	290	672
1929.....	1,113	394	719
1931.....	696	228	468
1933.....	700	282	418
1935.....	824	340	484
1937.....	1,114	460	654
1939.....	1,194	544	650
1942.....	1,736	797	939
1943.....	1,594	659	935
1944.....	1,533	647	886
1945.....	1,404	546	858
1947.....	1,570	751	819
1951.....	2,271	1,232	1,039
1952.....	2,467	1,548	919
1953.....	2,815	1,861	954
1954.....	2,894	1,978	916
1955.....	3,433	2,431	1,002
1956.....	3,444	2,493	951
1957.....	3,307	2,455	852
1958.....	3,741	2,884	857
1959.....	4,467	3,427	1,040
1960.....	4,392	3,492	900
1961 ²	4,600	3,660	900

¹ Includes small volumes of imported logs.² Preliminary estimates.

Source: Bureau of the Census, U.S. Department of Commerce (30, 33); Forest Service, U.S. Department of Agriculture.

TABLE 13.--Rosin & Turpentine: Supplies, requirements, and prices, Crop years beginning April 1, 1958 through 1961

ROSIN (520 lb. Drums)

Crop Year Beginning April 1	Commodity and Type	S U P P L Y				R E Q U I R E M E N T S			Carry-out stocks ¹	Average price
		Carry-in stocks ¹	Production	Imports	Total supply	Domestic	Export	Total		
1958.....	Gum	559,450	369,350	600	929,400	278,430	101,630	380,060	549,340	8.33
	S. D. Wood	70,740	1,182,620	-0-	1,253,360	845,880	342,870	1,188,750	64,610	8.20
	Tall Oil	38,660	305,060	-0-	343,720	252,220	64,450	316,670	27,050	7.76
	Total	668,850	1,857,030	600	1,526,480	1,376,530	508,950	1,885,480	641,000	--
1959.....	Gum	549,340	334,110	2,110	885,560	408,420	305,620	714,040	170,520	9.59
	S. D. Wood	64,610	1,198,690	-0-	1,263,300	811,840	396,550	1,208,390	54,910	9.58
	Tall Oil	27,050	382,970	-0-	410,020	305,480	79,840	385,320	24,700	8.63
	Total	641,000	1,915,770	2,110	2,558,880	1,525,740	782,010	2,307,750	251,130	--
1960.....	Gum	171,520	370,150	350	542,020	262,110	156,720	418,830	123,190	14.52
	S. D. Wood	54,910	1,219,850	-0-	1,274,760	756,570	373,490	1,130,060	144,700	13.28
	Tall Oil	24,700	419,960	-0-	444,660	303,490	97,380	400,870	43,790	12.93
	Total	251,130	2,009,960	350	2,261,440	1,322,170	627,590	1,949,760	311,680	--
1961 (Est.).	Gum	123,000	470,000	*	593,000	265,000	150,000	415,000	178,000	12.00
	S. D. Wood	145,000	1,100,000	-0-	1,245,000	750,000	275,000	1,025,000	220,000	--
	Tall Oil	44,000	465,000	-0-	509,000	330,000	65,000	395,000	114,000	--
	Total	312,000	2,035,000	*	2,347,000	1,345,000	490,000	1,835,000	512,000	--

TURPENTINE (50 gal. bbls.)

1958.....	Gum	42,880	120,300	22,150	185,330	121,900	30,100	152,000	33,330	.513
	S. D. Wood	⁴ 69,000	172,600	-0-	241,600	153,870	25,730	179,600	⁴ 62,000	.525
	Sulphate	⁴ 39,220	315,340	-0-	354,560	299,310	16,680	315,990	⁴ 38,570	.315
	Total	151,100	608,240	22,150	781,490	575,080	72,510	647,590	133,900	--
1959.....	Gum	33,330	107,400	15,440	156,170	94,250	28,970	123,220	32,950	.534
	S. D. Wood	⁴ 62,000	175,950	-0-	237,950	116,460	21,490	137,950	⁴ 100,000	.520
	Sulphate	⁴ 38,570	353,400	-0-	391,970	318,020	11,420	329,440	⁴ 62,530	.318
	Total	133,900	636,750	15,440	736,090	528,730	61,880	590,610	195,480	--
1960.....	Gum	32,950	118,950	14,270	166,170	90,850	23,200	114,050	52,120	.479
	S. D. Wood	⁴ 100,000	162,880	-0-	262,880	136,990	27,890	164,880	⁴ 98,000	.471
	Sulphate	62,530	322,940	--	385,470	293,630	30,660	324,290	⁴ 61,180	.212
	Total	195,480	604,770	14,270	814,520	521,470	81,750	603,220	211,300	--
1961.....	Gum	52,000	149,000	14,000	215,000	120,000	36,000	156,000	59,000	.270
	S. D. Wood	98,000	147,000	-0-	245,000	130,000	26,000	156,000	89,000	--
	Sulphate	61,000	325,000	-0-	386,000	295,000	10,000	305,000	81,000	--
	Total	211,000	621,000	14,000	846,000	545,000	72,000	617,000	229,000	--

¹ Includes CCC loan stocks. These are gross stocks, including quantities sold and awaiting shipment.² Price in drums f.o.b. production points.³ F.o.b. tank cars at production points; sulphate turpentine prices are for the crude product whereas gum and S.D. are on a refined basis.⁴ Estimated allocation by ASCS as between S. D. and Sulphate turpentine stocks, of total wood turpentine stocks reported by Crop Reporting Board.

Source: Supply & Requirements: Reports of Crop Reporting Board, U.S.D.A.; estimates of ASCS, USDA. Prices: U.S.D.A. Naval Stores Market News, Naval Stores Review, N.Y. of Commerce, trade information, & estimates of ASCS, U.S.D.A.

TABLE 14.--Production of turpentine and rosin by specified countries, calendar years (except where otherwise noted), 1946-60

TURPENTINE (50-gallon barrels)

Country	1946-50 Av.		1951-55 Av.		1956		1957		1958		1959		1960	
	Quantity	Percent of Total	Quantity	Percent of Total	Quantity	Percent of Total	Quantity	Percent of Total	Quantity	Percent of Total	Quantity	Percent of Total	Quantity	Percent of Total
United States ¹ ..	650	59.7	612	50.8	645	48.2	627	46.0	608	43.6	637	44.6	605	41.7
China ² ³	12	1.1	61	5.0	150	11.2	137	10.0	180	12.9	145	10.2	145	10.0
Finland ³	21	2.0	26	2.2	36	2.7	38	3.0	41	2.9	40	2.8	44	3.0
France ⁴	85	7.8	90	7.5	64	4.8	75	5.6	67	4.8	72	4.9	70	4.8
Greece.....	12	1.1	26	2.2	35	2.6	³ 40	3.0	37	2.7	36	2.5	43	3.0
India.....	12	1.1	18	1.5	23	1.7	23	1.7	24	1.8	25	1.7	26	1.8
Indonesia.....	*	-	3	.2	6	.4	6	.4	7	.5	8	.6	8	.5
Mexico.....	31	2.8	34	2.8	34	2.3	41	3.0	43	3.1	47	3.3	55	3.8
Poland.....	12	1.1	23	2.0	30	2.2	30	2.4	31	2.2	33	2.3	35	2.4
Portugal.....	71	6.6	61	5.1	64	4.8	74	5.4	69	4.9	76	5.3	84	5.8
Spain.....	54	4.9	52	4.3	44	3.3	54	4.0	55	3.9	56	3.9	70	4.8
Sweden ³	44	4.0	42	3.5	50	3.7	52	3.9	51	3.6	56	3.9	63	4.3
Turkey.....	*	-	*	-	*	-	2	.1	2	.1	4	.3	4	.3
U. S. S. R. ² ³ ..	60	5.5	130	10.8	132	9.9	141	10.3	153	10.9	165	11.6	170	11.7
Others ⁵	25	2.3	25	2.1	27	2.0	27	1.2	30	2.1	30	2.1	30	2.1
Total.....	1,089	100.0	1,203	100.0	1,340	100.0	1,367	100.0	1,398	100.0	1,430	100.0	1,452	100.0
ROSIN (520-pound drums)														
United States ¹ ..	1,997	66.2	1,897	57.3	1,994	52.8	1,865	50.5	1,857	47.8	1,916	48.6	2,010	48.1
China ² ³	30	1.0	163	4.9	400	10.6	330	9.1	500	12.8	400	10.1	400	9.6
Finland.....	7	.2	9	.3	15	.4	7	.2	16	.4	24	.6	28	.7
France ⁴	218	7.3	229	6.9	163	4.3	³ 190	5.1	171	4.5	184	4.6	170	4.1
Greece.....	32	1.1	68	2.0	99	2.6	³ 103	2.8	95	2.5	92	2.4	108	2.6
India.....	38	1.3	58	1.8	73	2.0	72	2.0	77	2.0	80	2.0	86	2.0
Indonesia.....	*	-	8	.2	15	.4	16	.4	16	.4	20	.5	21	.5
Mexico.....	94	3.2	107	3.3	110	2.9	121	3.3	131	3.3	143	3.6	170	4.1
Poland.....	30	1.0	61	1.8	77	2.0	77	2.1	75	2.0	80	2.0	85	2.0
Portugal.....	197	6.5	171	5.2	189	5.0	223	6.0	209	5.4	226	5.7	259	6.2
Spain.....	130	4.3	123	3.7	107	2.8	131	3.5	134	3.4	142	3.6	172	4.1
Sweden.....	12	.3	20	.6	19	.3	³ 22	.4	21	.5	22	.6	27	.6
Turkey.....	*	-	*	-	1	-	5	.1	6	.2	10	.3	11	.3
U. S. S. R. ² ³ ..	164	5.4	332	10.0	441	11.8	460	12.4	500	12.8	530	13.4	550	13.2
Others ⁵	67	2.2	67	2.0	70	1.9	70	1.9	80	2.0	80	2.0	80	1.9
Total.....	3,016	100.0	3,313	100.0	3,773	100.0	3,692	100.0	3,888	100.0	3,949	100.0	4,177	100.0

* Less than 500 barrels or drums.

¹ Crop years April 1 through March 31.² Estimated³ Revised from "World Trends" Supplement 3.⁴ Crop years May 1 through April 30.⁵ Includes output in Albania, Austria, Bulgaria, Honduras, Hungary, Japan, Norway, Pakistan, and Yugoslavia.

Sources: Official trade statistics, foreign trade sources, U. S. Foreign Agricultural service dispatches, Crop Reporting Board, and Bureau of the Census reports.

